

INSIDE
DOPE

Learn to live and laugh—
Thus delay your epitaph

By GEORGE
F. TAUBENECK

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Story of the Week

Jack Benny hugely enjoyed a testimonial dinner promoted in his honor by the Friars. Rival comics from sardonic Fred Allen to ebullient Milton Berle eulogized the Waukegan fiddler.

Midst that heart-warming shining perennial toastmaster George Jessel read a telegram from Benny's wife, Mary Livingstone: "Congratulations. When you come home, please remember to bury the garbage."

Gags of the Week

Pie is something a bride doesn't find as easy to make as.

Like refrigerators, people need defrosting occasionally. — *Mutual Moments.*

"He who laughs last has thought of another joke."—*Polywoog.*

Random Observations

A revolutionary thing happened the other day. We received a new-product press release which advised that the product, although an improvement over previous models, was not revolutionary.

Being a student of the late-rising school, we never would have believed any good would come to an association which started convention activities at 7:30 A.M. But the National Appliance & Radio-TV Dealers Association has convinced us of our error.

Of course, we could insist that NARDA's impressive growth has come about in spite of the practice of starting each day's convention program with a breakfast session.

But in all honesty we must report that practically as many turn out for these early-morning sessions as do for sessions held later in the day. We can see nothing but a brilliant future for an organization which can inspire its members to rise and shine (well, rise at least) at such an hour!

Ode to Servicemen

"We have been pleased at the efficient job done by the wholesaler and jobber," writes Harry Welch, advertising manager of A-P Controls Corp. "It seems to us that from time to time we tend to take for granted or forget the important service being done by wholesaling organizations. So, therefore, we have taken it upon ourselves to give credit where credit is justified."

Welch refers to a cartoon book which portrays in humorous fashion, the fine work accomplished by wholesalers in relation to the many vicissitudes of life with which they must contend.

A-P's Welch tells this "story of" (Concluded on Page 8, Col. 1)

Standardization

2 Compressor Models Will Meet Military Field Specifications

WASHINGTON, D. C.—Instead of more than 36 different open compressor models, just two models produced by several manufacturers will now meet all specifications for military field equipment.

This is a result of progress already made in a project of industry and the U. S. Department of Defense to standardize requirements and major components used in military field refrigeration and air conditioning systems, it is revealed in a progress report from the Assistant Secretary of Defense, Supply & Logistics.

In addition, prototype open compressors that are completely interchangeable have been produced by three manufacturers and are now under test by the Quartermaster Corps.

The standardization program will include open type compressors, (Concluded on Back Page, Col. 1)

Chrysler Auto Air Conditioner Design Gets Major Changes

DETROIT—Considerable change in design will mark the 1955 automobile air conditioning system which Chrysler Corp. will offer, it was learned last week.

Also, the MoPar Parts Div. of Chrysler will make available packaged air conditioning units for field installation in Dodge 8-cylinder and DeSoto passenger car models. Heretofore air conditioners for these two makes of cars have been made available by Chrysler only as factory-installed equipment.

Special kits will permit installation of the air conditioning units in dealer establishments. It is thought probable that dealers in certain localities may "pool up" on air conditioning installation and (Concluded on Page 10, Col. 1)

50th Anniversary

Price's 'Colossal' Commences with Car Caravan

NORFOLK, Va. — With TV cameras reporting the event, a 47-car caravan accompanied by a trailerload of azaleas will arrive here from Kenosha, Wis. March 9

G-E To Build New Texas Plant for Home Cooling Units

TYLER, Texas — The General Electric Co. announced recently that it will build a new multi-million dollar plant here for the manufacture of home cooling units.

Representing an investment of \$15,000,000, when current and proposed plans are completed, the new G-E installation will be the company's first major manufacturing plant in the state of Texas.

S. J. Levine, general manager of the company's Home Heating and Cooling Department, said that the projected plant is needed for expanded production of home cooling units. In the last two years G-E central home cooling sales have increased 10 times, he pointed out.

The plant, to be completed in the fall of 1956, will be situated just outside the city of Tyler, which is in the northeastern part of Texas. Several hundred persons will be employed for plant operations, most of whom will be hired in Tyler. Approximately one hundred management, technical, and specialist employees will be transferred from Bloomfield, N. J. where the Home Heating and Cooling Department presently has its headquarters.

Construction of the plant will begin in the next two months. (Concluded on Page 4, Col. 5)

Frozen Food Cases 'Most Wanted' Equipment, NARGUS Survey of Grocers' Planned Purchases Finds

CHICAGO—A survey of members of the National Association of Retail Grocers has revealed that 25,000 plan to buy new store equipment this year and that frozen food cases "continue to set the pace in equipment-purchasing intentions."

The study disclosed that 7,440 independent grocer members expect to buy frozen food cases during 1955, compared to 6,240 investing in wall or island shelving.

"Even more frozen food cases will be bought than such basic items as shopping carts and meat,

1954 Refrigerator Sales Volume Estimated at 3,410,000 Units

Rise Noted In Sales Toward End of Year

DETROIT—World sales of household electric refrigerators by U. S. Manufacturers during 1954 totaled 3,410,000 units, according to estimates made by AIR CONDITIONING & REFRIGERATION NEWS.

The 16 manufacturers who reported their sales to the National Electrical Manufacturers Association during they year sold 3,323,559 units.

This was 5% fewer than were sold by 17 manufacturers in the preceding year and the lowest sales total since 1947, a year when materials shortages held back production.

Record year was 1951 when the News estimated that 6,000,000 American refrigerators were sold around the globe.

While total sales of the NEMA group dropped 5% for the year, their sales within the United States slipped only 3%. Sales to Canada declined by 54% and to other countries by 9%.

Despite the decline for the year, sales during the last few months were showing signs of revival. December sales by NEMA firms were up 15% over the same month of 1953. Sales within the U. S. rose by the same percentage while those to Canada shot up 124%, and to other foreign countries 14%.

The 1954 figures revealed a number of changes in the popularity of various size units. The 8-cu. ft. size that had outsold all other sizes in 1950-52 and gave up top spot to the 9-cu. ft. size in 1953, regained its ascendancy last year and far outsold all other sizes.

The 10-cu. ft. refrigerator, which ranked fifth last year, moved up to second spot. The 9 cu. ft. dropped from first to third, the 11 cu. ft. dropped from second to fourth, and the 7 cu. ft. dropped from third to fifth.

AM Appliance Sales Up 29% for 4 Months

DETROIT — American Motors Corp.'s total sales of refrigerators, ranges, laundry equipment, and other appliances in the four months ended Jan. 31 increased 29% over the like period a year ago, according to George Romney, president.

Romney announced the sales gain in a special report to stockholders coincident with the first public showing by dealers of new 1955 Nash Ambassador and Statesman and Hudson Hornet and Wasp cars.

Philco Answer Denies Anti-Trust Charges

PHILADELPHIA — Defending the legality of agreements with its distributors, Philco Corp. has asked the U. S. District Court here to dismiss the Government's suit accusing it of violating Federal anti-trust laws.

Replying to the government's charges made in a suit filed last December, the manufacturer denied violating the Clayton and Sherman anti-trust acts.

In its 16-page answer, the company argued that its distribution policy increases competition in the sale of major appliances and television and radio receivers. Sales by untrained and unqualified deal- (Concluded on Page 4, Col. 5)

BEHIND PAGE ONE . . .

Freezer-Food Plan 'Shoppers' Report

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Austin Village Report (5)

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Heads Can Be Cut, Cooled, and Shipped 300 Miles From Wisconsin Farm In 24 Hours

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Two-Way Truck Radio

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Leasing Equipment

Authority Advises Against It Except for Some Large Supermarket Chain Accounts

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Virginia RACCA, RSES Plan Joint Meeting In Richmond March 11

RICHMOND, Va.—Joint annual convention of the Refrigeration & Air Conditioning Contractors Association of Virginia and the Refrigeration Service Engineers Society will be held in the Jefferson hotel here from March 11 to 13, Pat Cooley, convention manager, announced recently.

Feature attractions for the Saturday sessions will be a discussion on "How to Sell Air Conditioning at a Profit" presented by Robert J. Allen, Philadelphia district manager for Typhoon Air Conditioning Co., Inc., and a service school staged by the Copeland Refrigeration Corp.

An additional feature will be the first RACCAV trade show at which 24 firms will exhibit their refrigeration equipment and component parts.

Entertainment includes a get-together dance on Friday night and a banquet and ball on Saturday evening.

MISSING SOMETHING?

More and better useful information is yours for the asking. See "What's New" page.

Use Key No. for fastest service.

Frozen Food Center Uses Over 100 Ft. Of Display Cases

BARBERTON, Ohio—A big user of refrigeration in this area is Ekers' new Barberton meat and frozen food center.

Opened late last year, the market has more than 100 ft. of freezer display cases. It also has freezer storage rooms, with a total area of over 20,000 cu. ft., which are capable of storing more than 10,000 cases of frozen foods.

The freezer cabinets were installed by Charles L. Schlegel.

For years, Ekers has been a large-volume processor of meat for home freezers in its Tallmadge plant. The new store will enable the firm "to do an even bigger and better job," it was stated.

Ekers calls itself a home freezer headquarters since it supplies both freezers and the foods that go into them. Freezer brands handled include Kelvinator, Deepfreeze, and Admiral.

The market has a quantity discount plan on food which is available to all freezer owners.

Ekers sells government-graded meat in sides, quarters, or any quantity desired. It will cut the meat to the customer's specifications and wrap it.

Also offered by the market are more than 30 ice cream flavors and specialties.

Willie Mae Rogers, Jack Aldridge To Speak at Atlanta



WILLIE MAE ROGERS



JACK ALDRIDGE

Aldridge is Building Specialist for "Life" magazine, and Miss Rogers is Director of the Good Housekeeping Institute. They are two of the principal speakers at a "Sales Conference" session to be held during the ARI Educational Conference and Exhibit March 17-19 at the Atlanta Biltmore hotel in Atlanta, Ga.

The conference and exhibition is one of a series of regional affairs conducted jointly by the Air-Conditioning & Refrigeration Institute, the Refrigeration Service Engineers Society, and the Air Conditioning & Refrigeration Wholesalers. It is open to anyone in the industry who may want to attend. There is no charge.

The sales conference, a new feature of these programs, will center around the theme of "New Markets for Refrigeration and Air Conditioning Equipment" and will discuss some approaches to these markets. There will also be technical sessions, covering such items as automobile air conditioning, changing units in the field, and the application of the heat pump.

ASHAE Plans Meeting In San Francisco June 27-29

NEW YORK CITY—The semi-annual meeting of the American Society of Heating & Air-Conditioning Engineers will be held June 27, 28, and 29 in San Francisco.

In making this announcement, ASHAE President L. N. Hunter added that Samuel W. Terry of the San Francisco Golden Gate Chapter had been appointed general chairman of the committee on arrangements.

Terry has announced that H. Duncan will serve as vice chairman and that G. M. Simonson is honorary chairman.

Committee chairmen are: Banquet, N. H. Peterson; entertainment, J. I. Sprott; reception, T. J. White; transportation, K. K. La Point; sports, Dudley Deane; young people, R. C. Pribuss; finance, K. F. Baldwin, Jr.; ladies, E. C. Cooley, Jr.; sessions, D. L. Williams; publicity, T. Brewer.

Koch Names Harris Assistant Sales Mgr. In Kansas City Area

NORTH KANSAS CITY, Mo.—Chester Litman, president of Koch Refrigerators, Inc., has announced the appointment of John Harris as assistant to Harold Kain, sales manager.

Harris attended the University of Kansas and the Boston University School of Business Administration. He has had both retail and wholesale selling experience, and during the war worked for General Motors and for North American Aviation as a job analyst.

Gonzalez Heads New Airtemp Dept.

DAYTON—The formation of a new application engineering and sales training department has been announced by J. F. Knoff, Chrysler Airtemp vice president in charge of sales.

Activities of the entire department will be under the supervision of R. A. Gonzalez, who has been named director of application engineering and sales training. Gonzalez will be assisted by J. C. Davidson, manager of application engineering and J. A. Clarke, manager of sales training. The activities formerly were affiliated with Airtemp's merchandising section.

Gonzalez joined Chrysler Airtemp in 1935 and since 1946 has headed the company's application engineering department.

Fogel Standardizes Its Reach-In Line

PHILADELPHIA — Standardization of the Fogel line of reach-in refrigerators has been announced by the Fogel Refrigerator Co. here.

New models are being made in three basic sizes in three exterior finishes. The basic sizes are 27, 45, and 72 cu. ft.

The "W" series has a white baked enamel exterior with polished "Alcoa" aluminum interior. The "SA" series has a stainless steel front with polished aluminum top, side, back, bottom, and interior. The "SS" series is finished in stainless steel on front, sides, and interior with top, back, and bottom in aluminum.

Sealed Units, Inc. Opens Assembly Plant In St. Petersburg, Fla.

ST. PETERSBURG, Fla.—New assembly plant for new and rebuilt sealed unit systems has been completed by Sealed Units, Inc. here, announces James "Hans" White.

The plant, which is equipped with the latest and most modern testing equipment and instruments, is located on highway U. S. 19 here.

White, who will direct plant operations, maintained a similar plant for many years in New York City and has been active in the refrigeration business for more than 20 years, having started in Europe.

To celebrate the opening of the new plant, the firm will hold open house Sunday and Monday, March 20 and 21, immediately following the ARI Educational Conference in Atlanta, White announced.

Ansul Names Baker, Sebstad

MARINETTE, Wis. — Ansul Chemical Co. announces the appointment of Richard Baker as public relations director and Brad Sebstad as advertising manager.

Baker, formerly advertising and sales promotion manager, will also serve as a special assistant to Ansul President Robert C. Hood. Sebstad will be in charge of the company's advertising, sales promotion, publicity, and publications programs.



Hard selling takes time— Time makes selling easy!

To clinch more sales in less time, quote a monthly payment, not a total cash price. Many of your prospects need their working capital and usual lines of credit for current operations. No matter how much they need your equipment, they can't sign your order now unless you show them a convenient, practical way to pay. That's the COMMERCIAL CREDIT PLAN way. When can we tell you our story? Phone our office in your city or write COMMERCIAL CREDIT CORP., 14 Light St., Baltimore 2, Md.



**COMMERCIAL
CREDIT
CORPORATION**

A service offered through subsidiaries of Commercial Credit Company, Baltimore... Capital and Surplus over \$170,000,000... offices in principal cities of the United States and Canada.

John Craig, Sales Manager, Points Out Advantages of usAIRco Distributorship

MINNEAPOLIS, MINN.—"The distributor who wants to make the most of the biggest and most competitive year yet faced by the air conditioning business should investigate the advantages of usAIRco's distributor program immediately."

John Craig, usAIRco Packaged Refrigeration Sales Manager, then cited the following features, designed to back up distributors from every conceivable angle.

(a) Complete Line. usAIRco manufactures high quality packaged equipment for industrial, commercial and residential markets... at competitive prices.

(b) Warehouse and Finance Plans... enable distributors to keep equipment on hand for use when needed, without tying up capital.

(c) usAIRco 5-year Warranty and service allowance are most liberal in the industry.

(d) Dealer aids, generous sales promotion helps and advertising allowances available.

(e) Direct factory representatives located in each section of the country to counsel distributors in every phase of the business.

Mr. Craig emphasized a coopera-

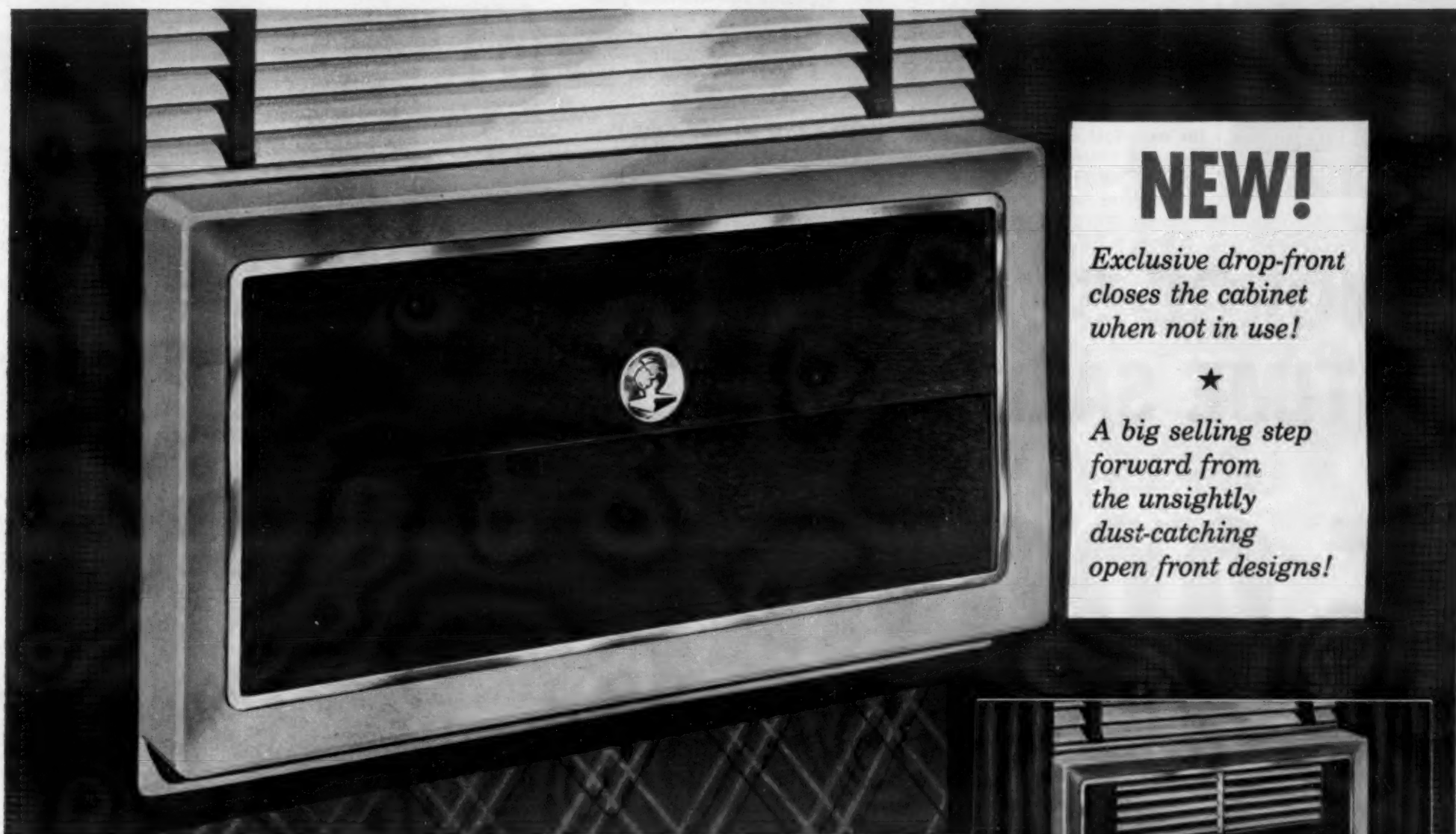


tive advantage found only in a firm the size of usAIRco. "Our understanding of the distributor's problems and willingness to help solve his problems are as vital a part of our program as the points listed in black and white."

For complete details at no obligation, write John Craig, United States Air Conditioning Corporation, 3240 Como Avenue S.E., Minneapolis 14, Minnesota.

Now, another exclusive from Kelvinator . . . more of the stuff more sales are made of!

"FURNITURE-FASHIONED" ROOM AIR CONDITIONERS FROM KELVINATOR!



NEW!

*Exclusive drop-front
closes the cabinet
when not in use!*



*A big selling step
forward from
the unsightly
dust-catching
open front designs!*

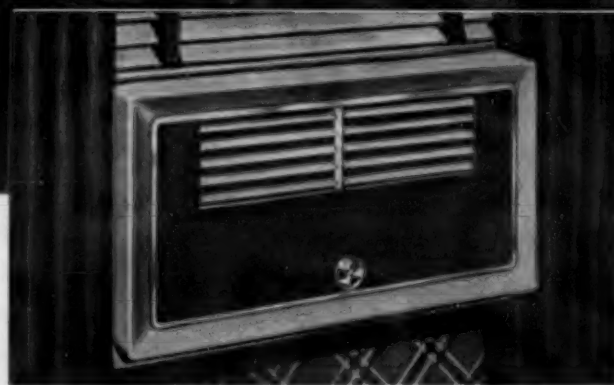
**BUILT FOR
PEOPLE WHO
CARE FOR
APPEARANCES!**

HERE'S another great exclusive from Kelvinator to companion the sales-inspired refrigerator, range, and laundry product lines already brought to you for 1955! . . . Here's the Kelvinator answer to the "ugly duckling" design, which has been the common fault of room air-conditioners for home and office use—and a real obstacle to sales . . . Here's a room air-conditioner your own wife would choose. Look at it from a prospect's viewpoint—and a salesman's, too! Look at its smart but conservative lines—its "furniture-fashioned" rightness of design. Consider the style-appeal of its leather-textured drop-down doors, its rich, soft sandalwood brown finish and decorative touch in the gold-finished bezel . . . This is an air-conditioner you'll enjoy selling—because you need make no excuses for its appearance, its performance, or its price! . . . And in Kelvinator you have the quality name you don't have to explain and the surpassing satisfaction of a product designed by the oldest makers of electric refrigerators for the home!

Kelvinator

Division of American Motors Corporation, Detroit 32, Michigan

The Most Valuable Franchise in the Industry



8 New Models—To Meet Home and Business Requirements

RAC-65 ½ H.P.—6000 B.T.U. Capacity.

RAC-855 ¾ H.P.—7800 B.T.U. Capacity.

RAC-85D* ¾ H.P. Deluxe Model. Push-Button Controls—2-Speed Fan Control—Thermostat and Heater of 4500 B.T.U. Available for 115V or 230V Operation.

RAC-85C ¾ H.P.—Casement Window Model with Push-Button Controls—2-Speed Fan—Adapter Kits for larger than standard windows or for installation inside closed windows.

RAC-1055 1 H.P.—10,600 B.T.U. Capacity—230V Only.

RAC-105D* 1 H.P. Deluxe Model. 10,600 B.T.U. Capacity. Push-Button Controls—Thermostat and Chromalox Heater of 6800 B.T.U. Capacity—230V Only.

RAC-155C* 1½ H.P. Deluxe Model. Push-Button Controls—2-Speed Fan—17,000 B.T.U. Capacity—Twin Cylinder Unit—Thermostat, 230V Only.

RAC-205D* 2 H.P. Deluxe Model. Two 1 H.P. Twin Cylinder Compressors—Push-Buttons—2-Speed Fan—Thermostat. Capacity 20,600 B.T.U.—230V Only.

*Designed for new high power factor specified by utilities for 1956.

What's
in a
name?

QUALITY

...if the
Name is

**READING
COPPER
TUBING**

FOR REFRIGERATION
& AIR CONDITIONING
EQUIPMENT



**READING
TUBE CORPORATION**

EMPIRE STATE BUILDING
NEW YORK 17, N. Y.
WORKS: READING, PA.

Colossal Anniversary Celebration--

(Concluded from Page 1, Col. 4)

concern started a 1,000-mile trip in an automobile caravan from Kenosha through principal cities back to Norfolk.

At Kenosha, the entourage took delivery of 59 new automobiles from the manufacturer (Nash Motors Div. of American Motors Corp.), all in a special white and Golden Anniversary gold two-tone finish.

While 12 of the cars were delivered in Norfolk by haulaway trailer and other means, a caravan of 47 Ramblers made the road trip back in easy stages, accompanied by the trailerload of Norfolk azaleas. The trailer group stopped at principal cities to display the azaleas and extend a public invitation to all to visit Norfolk and the Azalea Court.

POLICE HONOR GUARD

A two-man Norfolk police honor guard traveled with the group to Kenosha, bearing a 200-year-old silver mace, 18th century symbol of British crown authority, presented to Norfolk by the British governor of the colony of Virginia in the early days of the nation.

Replicas of the mace were presented as a goodwill gesture to the municipal authorities of Kenosha and other selected stopping points along the way.

The Price caravan party flew to

Milwaukee last Friday morning. Ceremonies in Kenosha included a welcome from civic and factory officials, azalea display, presentation of the mace, luncheon, brief visit to the final assembly line, and sendoff with police escort.

Stops were scheduled by one group in Kokomo and Richmond, Ind.; Cincinnati; Charleston, W. Va.; and Richmond, Va. The other group was to stop in Ft. Wayne, Ind.; Mansfield, Ohio; Cumberland, Md.; Charlottesville, Va.; and Richmond.

Both groups were to stay overnight in Richmond, concluding their trip March 9 with a morning drive to Portsmouth and mid-day parade through Portsmouth and Norfolk up to the municipal auditorium, officially opening the civic birthday party celebration at 2 p.m.

While enroute, Price's star appliance salesman did double duty—working for Norfolk on the road, but still maintaining contact with their appliance and television prospects in the Norfolk area. Promotional mailing pieces were prepared in advance for mailing back to each salesman's prospect list from points along the way.

ROXANNE TO CUT RIBBON

After greetings from the mayor of Norfolk, a ribbon officially opening the celebration will be cut by

TV star Roxanne. Then the six beauties wearing mink stoles and the letters P-R-I-C-E-S will release 50 balloons containing prize certificates for cash or appliances.

The caravan's arrival will be covered by a local TV station, and a local TV variety show will be staged in the auditorium during the late afternoon. Cash prizes will be offered to couples married in Norfolk in 1905, surviving teachers in the city's schools of 1905, and surviving members of the Norfolk High school class of 1905.

A 30-minute audience-participation show will follow, featuring Roxanne.

There will be music, booths for contests and games, and ice cream and birthday cake for all visitors. Also planned are exhibits, including some of the products sold by Price's during the past 50 years, in addition to attractive displays of some of the appliances currently being offered in Price's five stores.

CAKE BAKING CONTEST

Thursday afternoon's highlight will be a birthday-cake baking contest for a major appliance prize, to be judged by professional home economists. Cake entries will be donated to local veterans hospitals or other charitable institutions.

On hand will be the Azalea Queen of 1954, Miss Pat Priest, daughter of Mrs. Ivy Baker Priest, treasurer of the United States. All day Thursday, the opening-day balloon-release stunt will be repeated periodically at each of Price's stores.

During the party the opportunity will be offered to win appliance prizes and the mink stoles worn by the balloon girls, to all who submit properly-completed entry blanks at any of the Price stores.

ANNIVERSARY SALE

A follow-up 50th Anniversary Sale will open Friday and Saturday, March 11 and 12, in the Price stores.

The anniversary theme will be employed by the Price organization all year, including decals on the 59 gold cars. Since 54 of these have been individually purchased by members of the organization, Price has arranged to have them repainted according to the owner's wishes after the Golden Anniversary year has ended.

Plans for the two-day birthday party were developed by Harry B. Price, Jr., president of Price's, and D. A. Packard, general sales manager of the Kelvinator Div. of American Motors.

HOW PRICE OPERATES

Price's has been a Kelvinator appliance dealer since 1934, and has sold Kelvinator products on an exclusive basis since 1947, when his organization started a meteoric sales rise that took it from an annual volume of about \$300,000 to well over \$3,000,000 at present.

Price's principles of operation are the traditional principles of specialty selling: sell the advantages of the product in terms of use, not price; don't wait for business to "drop in," go out and get it with all the means available—through advertising, promotional activities, and outside selling.

He believes thoroughly in the incentive system, to get the most in effort and enthusiasm out of his organization—incentives in the form of commissions, bonuses, contests with merchandise prizes or "clean green" (cash).

He believes in almost a military tactician's approach to selling: pick a special objective; train your men; develop the tools needed to help them to meet the objective; and then concentrate on the target.

Price has his entire organization on the alert for new merchandising ideas and new ways and means of getting prospective customers into the store.

Of his 160-employee staff, 33 are appliance and television salesmen,

four are assigned to truck sales, and five specialize in freezer-food plan sales.

The salesman is king in the organization. Price expects strict adherence to his business methods, but offers sound compensation, including an escalator-type base salary that is adjusted in accordance with earnings, supplemented by commissions and bonuses. All employees are beneficiaries of a profit-sharing trust fund, on which they may draw after reaching 60.

Regularly once a month Price has one-day sales "blitzes," when every salesman is off the floor. During one recent "blitz" day, 118 appliance sales were called in and one salesman alone sold five \$650 home freezers.

USES LOTS OF CONTESTS

Price doesn't hesitate to lay contest on top of contest as a method of continued sales stimulation. He has had as many as four running at one time. Stunts that will stimulate and attract are his stock in trade.

Price is currently president of the national Appliance & Radio-TV Dealers Association. He won the Brand Names Retailer of the Year award in the appliance classification in 1951 and is hot after the top spot again this year.

New G-E Plant--

(Concluded from Page 1, Col. 3)

When completed, the Tyler plant will have about 350,000 sq. ft. of floor space in a single story manufacturing building fronted by an office building. It will be completely air conditioned.

Philco Answers Suit--

(Concluded from Page 1, Col. 5)

ers harm the public and damage the company's reputation, Philco contended.

Philco criticized the suit as "a new and dangerous challenge to those manufacturers who are endeavoring to preserve the system of independent distributors."



"My Typhoon District Manager is always Johnny-on-the-spot," says Don Kissell (left), Typhoon Los Angeles dealer.

TO GET ON THE MOST PROFITABLE FACTORY-DEALER TEAM IN THE BUSINESS, TIE UP WITH

TYPHOON 505 Carroll St.,
AIR CONDITIONING Brooklyn 15, N. Y.

*COMMERCIAL AIR CONDITIONERS, 2 TO 25 TONS
*RESIDENTIAL YEAR-ROUND UNITS FOR GAS OR OIL
*ROOM AIR CONDITIONERS, 1/2, 1, 1 1/2, 2 H.P.
*PACKAGED HEAT PUMPS, RESIDENTIAL & COMMERCIAL



For All Your Refrigeration and Air Conditioning Requirements

Curtis Refrigerating Machine Division
of Curtis Manufacturing Company
1912 Kienlen Ave. St. Louis 20, Mo.
Established 1854

AIR CONDITIONING & REFRIGERATION ENGINEER

Experienced in estimating, application and sales engineering. Excellent opportunity for advancement with an expanding organization—Toledo's largest. Salary open. Telephone Main 2264 (collect) for personal interview, or write

THE LUMM CORPORATION
2512 Albion Street, Toledo 6, Ohio

NORGE SETS NEW ALL TIME SALES RECORD

\$15,000,000

SALES IN JANUARY

100% INCREASE

OVER ANY PREVIOUS MONTH IN NORGE HISTORY

SEE YOUR NORGE DISTRIBUTOR FOR A RED HOT FRANCHISE TODAY!

more-much more-from NORGE

NORGE SALES CORPORATION, SUBSIDIARY OF BORG-WARNER CORPORATION, MERCHANDISE MART PLAZA, CHICAGO 54, ILLINOIS



Norge Ranges, 'Beauty Queen' Cabinets To Be Sold As Unit



CHICAGO—Plans to sell Norge built-in ranges in combination with matching "Beauty Queen" steel cabinets were announced recently by Norge, a subsidiary of Borg-Warner Corp., and Toledo Desk & Fixture Corp., Maumee, Ohio, manufacturer of Beauty Queen cabinets.

The cooperative sales project will provide one simplified, economical unit for kitchen remodeling use, according to Frank Crook, president of Toledo Desk & Fixture, and R. C. Connell, Norge vice president of sales.

Under the arrangement the package will be sold through Beauty Queen and Norge sales organizations, Crook and Connell reported. They said that Crane Co. would also distribute the Norge built-in package unit through its branches.

The Beauty Queen cabinets have been built to accommodate Norge built-in ovens and surface cooking tops. In addition, they have been styled in several colors so that they will harmonize with the color of the oven doors, Crook further stated.

Norge distributors will stock the ovens and tops and merchandise the package as a joint operation, Connell said.

Both officials emphasized that the plant is not a restrictive sales agreement.

Combined distributors of all groups number about 1,100.

Motor Products Plant Bought by Whirlpool

ST. JOSEPH, Mich.—The Marion, Ohio plant of Motor Products Corp. has been purchased for cash by Whirlpool Corp., it was announced here by D. W. Alexander, vice president in charge of operations for the appliance manufacturer.

The purchase price was not indicated.

The 250,000-sq. ft. plant, "to be occupied by Whirlpool late in April, will be converted as rapidly as possible to the manufacture of automatic gas and electric clothes dryers," Alexander said. He indicated that pilot production should start in the fall.

The plant, which was completed in 1950 by Motor Products at a cost of over \$4,000,000, has been used for the manufacture of automobile accessories. At peak production, more than 1,500 people were employed.

In addition to the plant the purchase includes 47 acres of improved land and certain manufacturing equipment.

Alexander said purchase of the plant "is part of a broad expansion program undertaken by Whirlpool in 1955 to meet the constantly increasing public demand for Whirlpool home laundry appliances."

The company recently announced plans to begin construction in March of a \$2,000,000 porcelainizing plant to augment manufacturing facilities of its plants here, as well as at Clyde, Ohio, and LaPorte, Ind.

PLANS to sell Norge built-in ranges in combination with matching "Beauty Queen" steel cabinets have been announced. Cabinets accommodate ovens and surface units.

Chicago Enforces Dormant State Law To Crack Down on Phony Sales

CHICAGO—An old but long-dormant state law governing fraudulent sales is now being enforced here as the result of action by the Chicago Retail Furniture Association.

Alarmed because "pseudo sales were getting out of hand" in this area, the association has launched a program aimed at putting an end to fake warehouse removal, fire, flood, and going-out-of-business sales.

The program is being supported by the offices of the mayor, city clerk, and corporation counsel, the state's attorney, and the local Better Business Bureau.

Sylvan Mack, executive head of the association, said the law being used in the cleanup campaign is Chapter 121½ of the Illinois revised statutes pertaining to phony

sales.

He said the corporation counsel's office had given the association an opinion that the city clerk has the power to revoke a sale permit when convinced there has been a violation of the condition of the license.

The city clerk's office is now keeping an eye on special sales of the type noted, according to Mack. Permits will have to be secured before such sales can be started.

"For one thing, the law requires that a merchant file a complete inventory of his merchandise when he applies for a going-out-of-business sale permit.

Violation of the law is punishable by a fine of not less than \$50 nor more than \$500, or not less than 10 days nor more than six months in jail, or both.

Smith To Head Appliance Sales for Crosley-Bendix

CINCINNATI—Donald B. Smith has been appointed director of appliance and laundry advertising and sales promotion for Crosley and Bendix Home Appliances Divs. of Avco Mfg. Corp.



D. B. Smith

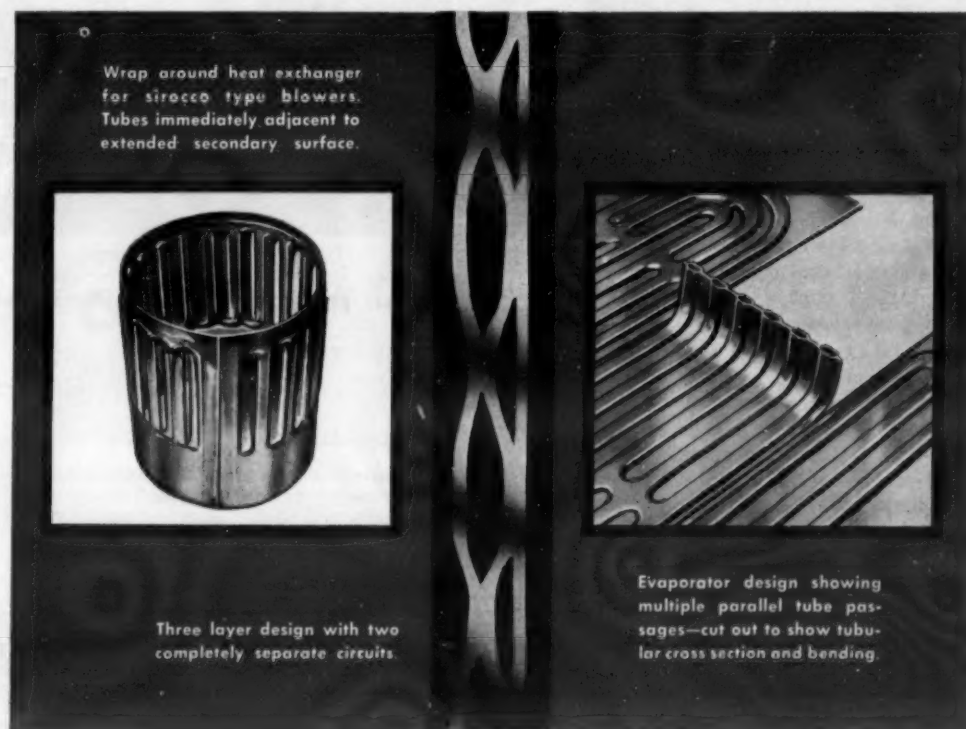
W. A. MacDonough, general manager of distribution and merchandising, said that the appointment became effective March 1. The new director replaces George Simons, who is resigning to return to the agency business.

Smith has been director of advertising, sales promotion, and public relations for the Lewyt Corp. for the past six years.

Because of Western ROLL-BOND

It is now possible to make these and many other products without dies and with an almost unbelievable saving of time and money.

Here are a few examples of metal working possibilities using WESTERN roll-bonding



Free! Actual Sample of Western Roll-Bond Process Metal
Management, Engineering and Production men frequently ask for an actual piece of Western Roll-Bond Process Metal. Western Metals will be happy to supply samples on request. Write to Roll-Bond Process, Dept. H, Western Brass, East Alton, Ill.

- Air conditioning evaporators and condensers
- Containers
- Doors
- Flooring
- Furniture
- Home freezer evaporators
- Immersion heaters
- Oil coolers
- Picture frames
- Plate heat exchangers
- Radiators
- Radiant heating units
- Refrigerator evaporators
- Reverse counterflow heat exchangers
- Solar heat collectors
- Structural shapes
- Systems for portable heaters
- Wall panels
- Water coolers
- ... and many more

Western

metals division

OLIN MATHIESON CHEMICAL CORPORATION

PLANTS • EAST ALTON, ILL. • NEW HAVEN, CONN.

FREEZER-FOOD PLAN 'CUSTOMERS' TELL:

1. How They Were Sold

2. What They Were Sold

3. Why They Bought or Rejected Offer

DETROIT—Much has been said and written about the proper way to sell food-freezer plans, but not much has been written about how the prospect reacts to the salesman's pitch.

One department store in a large American city—not Detroit—decided to find out that reaction by having its own comparison shoppers act as prospects. The store particularly wanted to learn the quality of selling, service, and delivery offered by the food-freezer department.

Three shoppings were made.

Two shoppers represented prospective customers who made and kept appointments with salesmen, listened to the sales talk, but did not buy. The third shopper represented a buying customer, who completed the entire transaction, including delivery to her home of freezer and food.

Here are portions of the reports these shoppers made back to the store:

Shopper No. 1 Reports --

Salesman called customer 1:30 p.m. Friday for appointment to explain food-freezer plan. Made appointment for 2 p.m. Monday.

Monday, salesman arrived at C's (customer's) home at 2:05 p.m. SP (salesman) was at C's home 2½ hours, left at 4:40 p.m.

SP: "I'd like to find out first thing if you could agree on the food plan without your husband being present. We usually like to talk to the husband and wife together."

C: "It doesn't make any difference. The food is my department and I've talked to my husband about it and he said as long as I handle the money for the food I can do what I want."

SP: "That's fine and I'll explain it to you but I just wanted to find out, as it saves your time and mine."

"Well, first, I would like to tell you that I'm going to be very honest. I will explain the plan, and figure the amount of money you will need for the food. (The store) has instructed us to be frank with a customer if we don't think you would benefit from the plan, or it would put any strain on your budget. We are supposed to try to save your money—not add to your expenses."

"This is our book entitled, '..... Presents.' I'd like to go through it with you and you'll get a pretty good idea what our plan can do for you. There are lots of plans on the market but we feel that ours has been worked out to do more for our customers than any other. It's to our own advantage because the more money people save on food, the more they'll usually spend in our store for home furnishings or clothes. But that's all in the book."

SP went through the book. It explained about saving money, health vitamins from freezer foods, storage space, time saving, less shopping trips, eating properly, cuts down on doctor bills, growth of children with proper food. Took about ¼ of an hour.

SP: "I'd like to figure out your monthly or weekly grocery bill. Do you have any idea about what they would be? If you buy by the week we'll figure it that way, or if you buy by the month, we'll do it that way."

C: "I think the weekly would be better, that's how I shop. I don't have too good of a budget, I'm afraid."

SP: "That's alright. I'm here to help you in figuring out how much food you eat and make suggestions on better eating. We'll break down your food into different items and I can tell about what size freezer you could use on about how much food you use. We like to sell it in a four months supply, then if there are any changes they can be made after the first four months."

He makes the breakdown.

SP: "If I figure up the amount of food you would receive in the four months period, meat, vegetables, fruit, and juices, would you be ready to sign up today?"

C: "I don't think so, I have to think about it. I really haven't decided definitely and I think maybe I should look at some other plans first."

SP: "Look at this ad that was in the paper the other night. This is a freezer plan at with the food from This is supposed to be the buy of a lifetime, but we have listed both these prices of foods with the sale and price of the same foods at our regular price."

"Look at the totals. They are 12½% higher than ours are and 19% on our economy frozen foods. We have the nationally known brands, Birds Eye, Minute Maid, and" (More in this vein.)

C: "I think I'll have to think it over and look around before I make up my mind."

SP: "Let me call you in a few days and stop out again."

C: "Oh, I think it's going to take me longer than a few days to make up my mind. If I'm going into it I'll call you."

SP: "Well, I'll leave my card and why don't you let me call you in a few days. Why don't you sit down tomorrow and figure out your groceries and how much you spend. I'm sure you'll find you save money."

C: "Maybe I'll keep track the next couple of weeks then I could tell better. Just how much does it cost a month to run the freezer?"

SP: "About the same as a refrigerator. Of course, where the freezer is placed, and how often it is opened counts a great deal. If the freezer is placed in a cool spot and you would take out your weekly food at one time and keep it in your refrigerator, that is the most economical. I'd say about \$1.50 per month."

C: "Couldn't you just give me prices? All these percentages don't mean much. Couldn't you give me the cost of the freezer and the cost of the foods?"

SP: "We don't sell that way. I could quote you freezer costs, but we feel that if it is all added together with your food for four months, then we figure your monthly payments. We feel this is a much better way to sell the food plan."

"If you would want to sign up today, when we're making out your order I could break it down and you would get a better idea."

C: "I don't plan on signing today. I have to think about it for a while." (Stood up.) "I'll think it over and, if I decide, I'll let you know."

Shopper No. 1 Comments

My main interest in finding out about food plan was cost. I would have liked to find out cost of freezer and cost of individual packages of vegetables, fruits, and juices. According to the salesman, they don't sell the plan this way. It would all be figured up after the person signed up for the plan.

But I felt that, until it was all figured out and I could study the plan and figure out the savings on it, I wouldn't sign up. So nothing about cost was found out. After the sales talk, I didn't know any more than when the salesperson started.

There wasn't any literature on freezer or food. Salesman had his own list of foods priced by so many pounds to the package at such and such a price. I felt that I was used to buying weekly, and knew individual price of packaged fruits,

vegetables, and juices.

But when foods are packaged in large packages with so much weight as the only description and I have to buy a four months supply at a time, I would have liked a list of the prices of individual packages such as: Peas—3 for 45 cents, corn—3 for 45 cents, etc.

This way the plan would mean a lot more to me. This list could have been left by the salesperson for me to look over and also pictures or pamphlets concerning freezer with price of different models.

Shopper No. 2 Reports --

Friday, 3:30 p.m. C called freezer plan department for appointment.

Monday, 1:01 p.m. the food counselor came. Very prompt. **Appearance:** Very neat, clean shaven, and nicely dressed.

Personality: He was very alert and personable. I liked the way he presented the plan and explained everything. I thought the whole explanation was very clear. Any question I asked he was able to answer, without hesitating or referring to book. He seemed anxious to help or answer my questions in any way possible. I liked the knowledge he had of his merchandise and the way he presented it to me. He seemed to have the utmost confidence in the food plan and alike.

He was very courteous also. In the time that he was here, I was interrupted by three phone calls,

I thought the sales talk was very long and drawn out, particularly the book put out by called "..... Presents." To my thinking, this was drawing out unimportant points that could be said in about five minutes, but the salesperson's going through the book took about 45 to 50 minutes. This was the way he had been instructed.

I think the salesperson could have shortened whole interview by just stating facts about prices, instead of beating around the bush about what a time saver—less trips to store, etc., etc.

a man to fix the disposal, and my baby crawling out of bed, and it didn't seem to disturb him. He gave me the impression that he was there to serve me and was willing to give me as much time as I needed.

Conversation: He went through the whole book describing the advantages of the plan, page by page, and adding things as he went along. Among the many things he pointed out, these are the main things, I remember.

1. That the plan saves you time, gasoline, jostling in crowds, waiting to be waited on, and pushing of carts.
2. That the plan saves you money in food buying, which in turn enables you to buy appliances, clothes, or furniture that you might be needing, which they hope you will

(Concluded on next page)

Reynolds Fabricating Service Develops...

AN ENTIRELY



**NOW! Heat Exchange Tubing
Right IN the Sheet!**

Cross-sectional view shows a variation of TUBED SHEET—the one-surface expansion. Other side remains flat, for uses such as freezer shelving.

Check the Revolutionary Advantages of this New Material!

GREATER ECONOMY

- Eliminates metal used for evaporator tubing, accumulators and receivers.
- No tubes to bend.
- Eliminates many connecting and assembly operations.
- Additional tubing length adds nothing to cost.
- Redesigning costs much less.

BETTER PERFORMANCE

- Refrigerant routed exactly where needed.
- No lost conductivity.
- Tubes act as stiffening ribs for sturdiness.
- No brazing or flux contamination.

NEW FLEXIBILITY OF DESIGN

- Practically unlimited circuit possibilities.
- Flat or oval passageways.
- Tubes can be large or small, spaced closer.
- Redesigns simplified, made quicker.

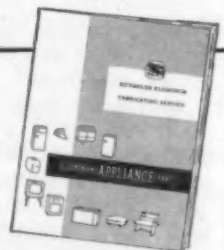
MORE ATTRACTIVE PRODUCT

- New one-side pattern expansion now available.
- Embossed decorative pattern also available.
- Color anodizing to match color-styled refrigerator and freezer interiors.

Now—send for full information on what Reynolds Tubed Sheet can do for your products!

To learn more about Reynolds roll-bonded aluminum sheet and its applications to your products, or for Reynolds engineering assistance on other refrigeration or air conditioning parts, contact the Reynolds office listed under "Aluminum" in your classified phone directory or write Reynolds Aluminum Fabricating Service, 2053 S. Ninth St., Louisville 1, Ky.

Write for your Free copy of the revised edition of "Aluminum Appliance Parts"—20 page brochure that describes the services offered by the Reynolds Aluminum Fabricating Service to the appliance industry.



See "Mister Peepers", starring Wally Cox, Sundays on NBC-TV

REYNOLDS ALUMINUM

BLANKING • STAMPING • DRAWING • RIVETING • FORMING

(Concluded from preceding page)

3. Nutritionally speaking, the home food plan, by giving you fast frozen foods, is a path to better health, and saves many of your precious vitamins, needed to combat diseases as T. B., cancer, malnutrition, etc.
4. He pointed out an article in *Reader's Digest* written about food plans. It stated that of 600 families interviewed 590 had said that the food plan had paid for their freezer in two years time.
5. I asked him if my electric bill wouldn't be increased about \$5 a month using a freezer, and he said definitely not. He said an ordinary outlet could be used to connect it, and it would cost about \$2.50 a month to operate.
6. He then figured out my budget for food on the four-month plan as close as possible. He seemed to think it best for me to try the 80-lb. packages. He was not at all reluctant to talk price. He figured out that on the plan I would have to pay \$70.50 a month—no down payment.
7. He pointed out that there was a one-year warranty on all parts and service and a five-year warranty on the motor.
8. He also made it a point to let me know that is one of the first names in freezers, and that all the foods in the

9. He also said that he and the home economist would stop by to see me from time to time to see that I was satisfied . . . that my food plan was working the way it should.
10. He said the freezer could be delivered in two weeks time, if I would like to sign up then. I told him that it all sounded convincing and did impress me, but I thought it only fair to tell him that I hadn't shopped or talked to anyone before him about a freezer and I would just feel better, if I had the chance to compare with other stores and plans.
11. He also pointed out plan and the food

plan; how the food was not frozen, must be packaged by you, and was higher priced. Food not national brands.

12. I told him that I would compare this coming Wednesday and Friday, and he said he would call me Saturday morning. He thanked me for my time and said that he hoped he would be able to take my order.

If I was going to buy a freezer on a food plan at this time, I certainly would have taken this plan. He definitely sold me, and if I ever have occasion to need his services I would certainly ask for him. A very good salesman, and a very personable young man. Salesman left at 2:45 p.m.

Shopper No. 3 Reports --

Tuesday, 10:10 a.m.—Customer phoned and asked for freezer plan dept.—was switched to a woman in the department who asked for name and phone number, advising C. that a man would phone later in the morning to discuss making an appointment.

10:25 a.m.—Man called, made appointment for 1 p.m. next day.

Wednesday, 12:48 p.m.—Customer answered door. Following is conversation after they go to kitchen and sit at table:

SP: (Unzipping brief case.) "How did you hear about our plan?"

C: "Well, I paid a bill on the fourth floor a couple of



months ago and saw a poster. I casually mentioned it to my husband since a freezer has been in the back of our minds. And then, we were talking to a friend last week who swears by her freezer (from plan) and she said she saw your big ad in the paper. That sort of spurred me to call in to find out about it."

SP: (As customer talked about ad, pulled out folded page, unfolded same, and showed it to C.)

SP: "Yes, this is the ad we ran." (Folds ad and returns it to pocket in case.) "The best way to explain our food-freezer plan is from the beginning." (Opens celluloid-paged book about 1 3/4 in. thick.)

(S.P. read each page word for word from front to end. This took 20 to 25 minutes because he used personal experiences, and drew comments from C. which could only have been in the affirmative. Example—amazing statistics on vitamin deficiency, high cost of store-bought food, etc.)

Then S.P. drew out copies of meat, fruit, and vegetable order blanks, continuing down the line with—"Do you eat beef, pork, etc.? Do you like leaf spinach or chopped

spinach?" This definitely was assuming C would make the purchase.

SP explained how food was frozen, compiled prices, added totals, and quoted price per month on food and freezer.

Price quoted customer was so unbelievably low, customer asked several times "How come the food alone is less than I spend per week and in two years, I will own a freezer too?"

SP: (Coming right back with a smile of humble superiority.) "Because you are dealing with and they feel if they can save you money in one place, you will patronize our other departments with the savings. Each time you come in to make a payment we hope you will see something else to buy."

"Why, do you know that if you go in and stand there with a charge-a-plate in your hand and I stand there with a \$100, they are more apt to wait on you first because you will always return and I may never, having paid cash?" (C. must interject here that this brought forth amazement as well as wonderment as to the type he thought he was conversing with.)

Shopper No. 3 Comments

At no time was the total price of the freezer mentioned. Only the monthly total. The freezer would be paid for in two years, but food could be bought for a lifetime without signing anymore papers except in acceptance of order after delivery. (Suppose chattel mortgage was referred to here.)

SP: Continued filling out two chattel mortgages; one for meat, one for vegetables, and put "x" before line for signature.

Shopper's Comments: C. was never asked point blank if she wanted to make purchase. He assumed he had sold C. even though questions were asked and at a time or two said, "Now, if I decide on this". This did not seem to hold him back.

C. signed chattel mortgages after S.P. said if freezer or plan are not entirely satisfactory, we may return same and no questions asked. S.P. emphasized that will take anything back even if it is months after the purchase. That they can only do this because the merchandise is of superior quality, and their purchases are made through which enables them to buy large quantities and pass savings down to customers.

SP: At 2:45 closed brief case, assured C store would call before making delivery, and headed towards door few feet away. Remarked about weather and presented card stating, "If you have any friends who are interested in a food-freezer plan call me. We pay \$10 for all sold leads. Goodbye!"

Shopper's General Comments: S.P. presented himself quite well in appearance, manners, and knowledge of the product.

C. did think almost two hours was a bit too long to take selling and closing sale because a great deal of time was spent on figuring foods, totals, and correcting same. SP was trying to juggle figures which would show low payments and food savings. C. became weary sitting in silence and fortunately children took long nap.

C. did like the way S.P. referred to his wife in several instances when discussing ways of fixing foods. Also when asked which type of vegetables were desired and C. mentioned husband disliking certain ones S.P. chimed in "Your husband and I could sure eat well together." Even though C. was not too sure this was honest, it was pleasant.

Wednesday, 2 p.m.—Woman at phoned, advising that freezer would be delivered Friday.

Friday, 5:15 p.m.—Manager in department phoned, apparently prepared to have an irate customer. He explained that they had so many orders for the 15-cu. ft. freezer, which was a new size, and all were delayed from the factory. The freezer would be delivered Monday. He was very nice and tried to console the customer. He did.

Monday, 5:30 p.m.—Customer received a phone call explaining there were so many freezers that he could not get to this one today. It would be delivered tomorrow morning, Tuesday.

Tuesday, 8:48 a.m.—Truck came, with two men. Backed truck down drive and unloaded 15-cu. ft. freezer. They worked with average speed unloading wooden-crated freezer. Put freezer in basement; no stairs to descend. They turned freezer on coldest in preparation for arrival of food later that same day. They put crates in basement all neatly stacked, and picked up shavings from drive. They were cooperative, worked efficiently and quietly, and were considerate of surroundings. No damage to property.

Tuesday, 10 a.m.—Completed delivery and pulled out. Customer now waited for food. Food did not arrive. No call.

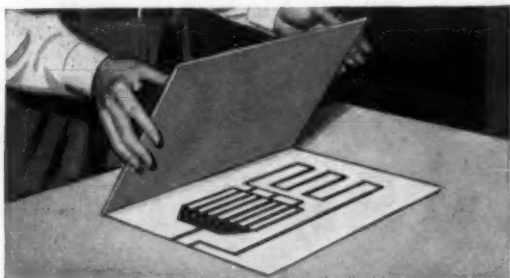
Thursday, 10 a.m.—Driver returned. Left refrigerated truck at top of drive. Packed food in freezer. Explained food could be re-arranged, as needed, and proceeded to explain how much use customer would get from freezer. Good salesman. Finished by 11:30. Food was as ordered.

NEW REFRIGERATION MANUFACTURING TECHNIQUE

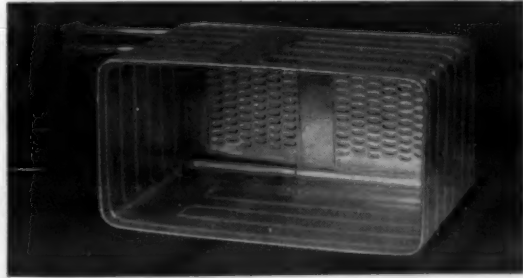
REYNOLDS ALUMINUM

TUBED SHEET

Now Being Produced by Reynolds Patented Roll-Bonded Process



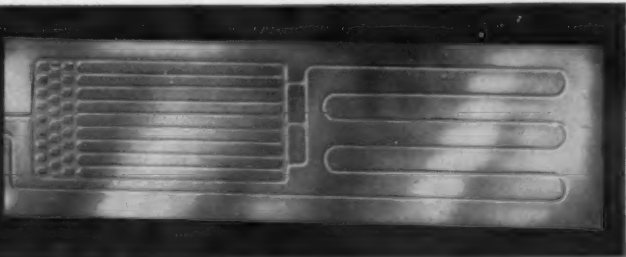
Reynolds Tubed Sheet is really two sheets of aluminum metallurgically bonded together. Expanded passageways in the sheet route refrigerants wherever they are needed. It is ideal for refrigerator evaporators, freezer liners and freezer cold plates.



In use, such as in the Refrigerator Evaporator above, Reynolds Tubed Sheet is both aluminum sheet and aluminum tubing, all in one . . . completely eliminating the costly operation of forming separate tube and brazing it to sheet.



Circuit possibilities are almost limitless with Reynolds Tubed Sheet. Your designers can design the ideal circuit for the problem at hand, no matter how complex it may be . . .



... and it can be produced, quickly and economically, right in the aluminum sheet itself! When you switch to Reynolds Tubed Sheet, you will save on time and cost and gain improved performance.

FABRICATING SERVICE

ROLL SHAPING • TUBE BENDING • WELDING • BRAZING • FINISHING

INSIDE DOPE

Learn to live and laugh—
Thus delay your epitaph

By **GEORGE F. TAUBENECK**

(Concluded from Page 1, Col. 1)
the man with the non-fading smile":

they blame this guy
the whole day long
for countless things
that have gone wrong.

and with it all
his smile remains
through troubles,
trials, and dirty names.

a Ph. D.
on cheese to beer.
he's also
quite an engineer
will act as counselor
or "Doc,"
gives out with law
around the clock.

his disposition's
like a saint's,
knows not "ifs"
or "buts" or "aints."

though others moan
"we can't," he'll try.
your problems
can't confuse this guy.

now, lesser men
would take absinthe

at stock rooms
like a labyrinth.

his place bursts out
at all its seams,
but "customer needs
are first," he deems.

from A to Z,
name one or all,
his stocks
are handy to your call.

just phone or write
or shine around,
his creed is
"never let them down."

advice is free
and up-to-date
his word, his credit
really rate.

the brands he sells
are always tops.
unlike this rhyme . . .
He never stops!

Interim Thought

The tragedy of life is not that
people die, it is that they never
truly live.—DR. LEONARD A. STID-
LEY.

Out of Our Mailbag

18, Shalom Aleichem Str.
Tel-Aviv, Israel

I, the undersigned, P. S. Her-
linger, was born in Gratz, Austria,
in 1931, and came to Palestine
(Israel) in 1939 with my parents.
I completed two years of high
school in Tel-Aviv and have since
then been working as a mechanic
in various places.

Among other things, I worked
as a refrigerating technician with
the firm "Ampa," a subsidy of
"Phileo International," during
1951-52. At last I was employed
by the Israel Institute of Productiv-
ity, a government-connected
enterprise.

I should like to acquire further
practical knowledge in air condi-
tioning, ventilating, refrigeration,
and I was advised by the American
Embassy, to contact you for my
purpose.

Could you let me know whether
I can get in touch through your
news agency, with a factory where
my case fits in.

It is understood that the ex-
penses of my journey to and from
the U. S. would be paid by me.

I would appreciate it if you could
let me know your decision at your
earliest possible convenience.

P. S. HERLINGER

Original Reporting

Anyone who knew China in the
old days before Communism took
over the country would find it
almost unrecognizable today. All
gaiety and charm have disap-
peared. There is no laughter in the
streets as there used to be, and
strangers are not now greeted with
smiles and shouts in villages. In-
stead, drab, dull apathy has settled
over every one and horrible uni-
formity is the order of the day.—
Reporter JOHN RIDLEY, in the *New
York Times*.

Armour Expands Frozen, Packaged Fresh Meats, May Begin Frozen Meals

CHICAGO—Officials of Armour
& Co. recently told shareholders
that the firm's frozen meats divi-
sion may introduce frozen prepared
individual meals, that consumer-
size frozen fresh chops, steaks,
and roasts "may not be far away,"
and that more fresh meat items
will be shipped to self-service
stores in consumer packages.

The latter prediction was made
by Thomas R. St. John, vice pre-
sident in charge of Armour's beef,
veal, and lamb division. He said
that as such packages are mer-
chandised, the profit factor will be
improved for the packer.

Self-service merchandising of
meat in supermarkets was credited
with establishing the change in the
pattern of handling fresh meat.

In stating that retail frozen
fresh chops, steaks, and roasts
may be near, Del Love, general
manager of the frozen meats divi-
sion, said a problem is that these
items can't as yet be produced
economically.

Love said more items will be
added to the company's retail
frozen meat line which now in-
cludes 14 packages. The beef grill
steaks package is currently the
best seller in the line, he reported.

Dickson, Line Take Engineering Posts With Hussmann

ST. LOUIS—John R. Caulk, Jr.,
vice president of manufacturing,
Hussmann Refrigerator Co., re-
cently announced the promotion of
Edgar V. Dickson to director of
engineering and appointment of



Richard A. Line

Richard A. Line
as chief refriger-
ation engineer.

Dickson has
been associated
with Hussmann
since May, 1947. His first assign-
ment was in the Research and De-
velopment Dept., and he remained
there until 1952 when he was ap-
pointed assistant manager of the
Consolidated Engineering Dept.,
which includes research, develop-
ment, and laboratory as well as
production engineering.

Dickson received his formal edu-
cation at the University of Hawaii,
and soon after, joined the engi-
neering staff of the Consolidated
Vultee Aircraft Corp., Miami, Fla.

He is a member of the ASRE
and was section technical commit-
tee chairman during 1954. At the
present time he is a member of
several ASRE committees.

Line brings to his new assign-
ment a broad background of prac-
tical experience and technical
knowledge. He is nationally recog-
nized as a leader in the field of
refrigeration engineering, it was
stated.

His formal education was re-
ceived at the Ohio State university,
graduating with a Bachelor of
Mechanical Engineering degree in
1941. This same year he joined
Sunbeam Electric Mfg. Co. (now
Seeger Refrigerator) in Evansville,
Ind., as process engineer.

He was associated with Lehigh
Foundries, Inc., Easton, Pa., from
April, 1946, to March, 1948, in the
capacity of foundry manager and
later as machine shop superin-
tendent. In April, 1948, Line was
appointed chief engineer for Lehigh
Mfg. Co., a subsidiary of Lehigh
Foundries, Inc., in Lancaster, Pa.

Prior to joining Hussmann, he
was assistant chief engineer for
Ansul Chemical Co., Marinette,
Wis. He is currently serving as
chairman of the ASRE Technical
Committee on Corrosion.



E. V. Dickson

10 Points of Frozen Food Handling for Retailers

LOS ANGELES—Ten points for
the proper handling of frozen foods
at the retail level were listed re-
cently by the Frozen Food Council
of Southern California.

They are:

1. Get that delivery off the side-
walk fast!
2. Rush the delivery to zero
storage. Don't give it a chance to
thaw.
3. Get frozen foods off the floor
and into the cabinet fast!
4. Rotate stocks so packages
won't become frost covered.
5. Customers won't buy torn,
crushed, or frost-covered packages.
So get rid of them.
6. Keep cabinets tidy.
7. Keep cabinets well stocked at
all times.
8. Stock nothing above the plate
line and keep packages back from
the glass front to let cold air
circulate.
9. Check cabinet temperature
every morning and every night.
10. Stocks don't sell in the back
room. Order just what you need
between deliveries plus a small
reserve of fast movers.

PENN

Series 270

SINGLE-POLE REFRIGERATION CONTROL

How simple can installation get? Take a
look at the three steps detailed at right!
And adjusting is simpler still! Because of
Penn's direct-reading, calibrated scale
indicating cut-in and cut-out settings,
there's no time-wasting subtraction or
addition. And that's not all — the Penn
270 Single Pole Refrigeration Control
combines this simplicity with low cost
and top performance. Your wholesaler
can tell you all about its money-saving
time-saving advantages. Penn Controls,
Inc., Goshen, Indiana.



Series 270 available in single
or double pole construction —
with or without external ad-
justing knob.

INSTALL
IT IN
3
STEPS

ADJUST
IT IN
2!

1. Mount the control on compres-
sor unit or any flat surface (univer-
sal mounting bracket furnished).
2. Connect flare nut on power
element capillary to compressor
suction valve.
3. Remove control cover and
make two electrical connections
(terminals are easy to get at).

1. Turn range screw to raise or
lower cut-in setting as required
(differential remains constant).
2. Turn differential screw to raise
or lower cut-out setting indepen-
dent of cut-in setting (this narrows
or widens differential).

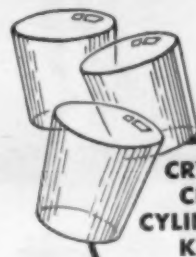
PENN

AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

LA CROSSE KUBE KING Automatic ICE MACHINE

Kube King, the leader in practical
design, economical operation pro-
duces approx. 2,000 kubes every
24 hours . . . storage bin holds
about 75 lbs. . . . uses only 5 qts.
of water per freezing cycle.



CRYSTAL
CLEAN
CYLINDRICAL
KUBES
WITHOUT HOLES!

WRITE
TODAY

AVOID
SERVICE
HEADACHES

Removable stainless steel
front panel, condensing unit,
pulls out for quick servicing.
No gadgets with modern
Kube King engineering.

LA CROSSE COOLER CO.

Factory & Gen'l. Offices:
3000 Losey Blvd., La Crosse, Wis.

Export Office: 80 Broad St., New York City. Cable: Eximpor

Florida '54 Sales of Room Air Conditioners Show Rise Over '53

MIAMI, Fla.—With the exception of freezers, conventional washers, and ironers, all major appliances sold in greater volume during 1954 than in 1953 in the territory served by the Florida Power & Light Co., the utility announced recently.

Clothes dryer sales more than doubled during the year and garbage disposer sales expanded by 82%. Water heater sales moved up 59% and dishwasher sales 31%. Automatic washers gained 25%, ranges 22%, room air conditioners 2.8%, and refrigerators 2.2%.

Freezer sales dropped 3.3%, conventional washers 15.2%, and ironers 68%.

For December, as compared with the same month in 1953, all appliance sales increased except room air conditioners which declined 6.7% and ironers which dropped 59%.

Clothes dryer and garbage disposer sales were about three times those of the same month in 1953, while automatic washer sales more than doubled. Home freezer sales were 53% higher, refrigerators were up 46%, and ranges up 48%.

Comparative unit sales for both December and the full year are:

Appliance	Dec. 1953	Dec. 1954	Year 1953	Year 1954
Air Conditioners	710	663	19,590	20,158
Refrigerators	3,296	4,820	45,571	46,596
Freezers	264	405	5,298	5,125
Ranges	2,048	3,024	20,688	25,154
Water Heaters	1,846	3,241	14,655	23,267
Dishwashers	117	209	1,921	2,512
Garbage Disposers	44	136	1,060	1,930
Automatic Washers	1,222	2,462	18,636	23,307
Conventional Washers	494	633	8,193	6,949
Clothes Dryers	143	419	1,607	3,330
Ironers	59	24	704	226

Price-Cutting Blamed for Remington Sales Drop

AUBURN, N. Y.—A loss of \$202,547 on total sales of \$5,394,765 for the fiscal year ended Oct. 31, 1954 has been reported by Remington Corp., manufacturer of room and residential air conditioners.

In his annual report to stockholders, recently issued, Herbert L. Laube, Remington Corp. president, stated that the loss amounted to 65 cents per share, as against a 1953 profit of 40 cents per share or a total of \$117,066 on sales of \$6,407,414.

The loss was attributed to three major difficulties which made 1954 an unsatisfactory year for the entire room air conditioner industry, namely: a mild recession at the beginning of the year; unseasonably cold weather in much of the country last spring and summer; and market demoralization and ruinous price-cutting. This was brought about by some firms trying to liquidate their large inventories before consumer demand developed.

"Nevertheless, the inherent vigor of this industry was demonstrated by the fact that 1954 room air conditioner sales at factory, distributor, and retail levels hit a new high—roughly 20% above record-breaking 1953," Laube said in his report, adding: "Year-end figures indicate 1954 factory shipments of 1,200,500 units vs. 1,010,000 units in 1953."

Laube went on to announce the development of an entirely new type of personal air conditioner, now going into production, called the Consolaire, as well as significant progress on the development of a new system of air conditioning for existing hotels, apartment houses, and office buildings.

Number of air conditioners produced in the Auburn plant in 1954 exceeded 1953 by 75% and a further 50% increase during 1955 will result in the Auburn plant producing over 90% of what the company sells, it was reported.

Vote April 26 on Welbilt, Donald Dailey To Leave Detroit-Michigan Merger Servel for Own Firm

NEW YORK CITY—A merger between Welbilt Stove Co. of Maspeth, L. I., and the Detroit-Michigan Stove Co. of Detroit which will result in the formation of the Welbilt Corp. has been agreed upon by directors of both firms.

Stockholders will be asked to approve the merger on or about April 26.

It is reported that part of the agreement is that Welbilt will designate the majority of directors for the new firm.

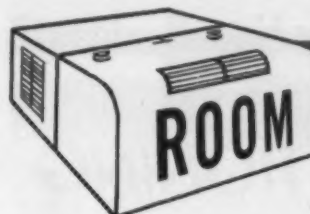
Welbilt manufactures room air conditioners as well as ranges. Detroit-Michigan manufactures gas ranges.

Welbilt is reported to have earned \$1 million on \$14 million in sales last year, while Detroit-Michigan lost \$1,600,000 on \$9 million.

EVANSVILLE, Ind. — Donald Dailey announced recently that he has resigned as vice president in charge of product planning at Servel, Inc., to enter business for himself. He will leave the company March 5.

"My plans for the future," Dailey said, "include some consulting work in the field of product design, and the acquisition of a proprietary interest in the management of a small manufacturing business."

After operating his own design firm in Philadelphia for four years with such clients as Philco Corp., Tappan Stove Co., and Proctor Electric Co., Dailey came to Servel in August, 1950, as product manager, and was promoted to vice president in charge of product planning in October, 1952, according to Servel.



AIR CONDITIONERS

Teaff Refrigeration Moves To New Houston Quarters, Expands Sales, Service

HOUSTON, Texas—S. E. Teaff Refrigeration Co. recently moved into new quarters at 402 Gray which takes up more than half a city block. The former location was 803 Franklin.

The firm, which specializes in sales and service of Friedrich refrigeration equipment, was founded by S. E. Teaff, Sr. in 1926. Now, he and his sons, Wesley W. and S. E., Jr., are partners.

Wesley is general manager for the company.

G. E. Didcock To Head Fedders Sales In Birmingham, Ala. Area

BUFFALO — Glenn E. Didcock has been appointed district sales manager for the Fedders-Quigan Corp. in the Birmingham, Ala. territory, Robert E. Cassatt, general sales manager, announced recently.

Didcock was formerly associated with the Moore-Handley Hardware Co. in Birmingham where he originally held the position of sales supervisor in the appliance department and for the past five years was manager of the appliance and radio department, the announcement said.

nothing measures up to a MITCHELL ROOM AIR CONDITIONER



70% more condenser surface for '55!



20% greater movement of air for '55!



29% larger evaporator surface for '55!

For greater heat transfer, MITCHELL has built into its '55 Super High-Capacity Chassis the largest condenser ever used in a 3/4 H.P. unit. Measure it.

Notice the extra large Blower Wheel on a MITCHELL. This, together with the larger evaporator, results in a 20% greater movement of air...and the giant condenser fan actually discharges 650 cubic feet per minute.

Notice the giant half-inch tubing in this bigger, MITCHELL evaporator. Look at the wide face area that cuts down internal resistance for high capacity, quiet operation.



5 minutes to room cooling with A.F.M. for '55!



20 directions of draft free air discharge for '55!

5 minutes to install...expando-mount for '55!



Another MITCHELL exclusive—the fast cooling feature. A revolutionary principle of discharging the air through a restricted opening increases air velocity from 750 feet per minute to over 1,000.

The direction of air discharge can be a critical sales factor. That's why MITCHELL, without adding complicated gadgets, has designed '55 units to send draft free air in any one of 20 directions.

Accordion pleated, weather-proof, nylon sides, slide out to fill the window opening. Old-fashioned cutting and filling with Masonite is a thing of the past.

Your only choice for 1955 if you want to sell quality at a price!

...and only with MITCHELL can you merchandise the Seal of Approval of the United States Testing Laboratory.

MITCHELL

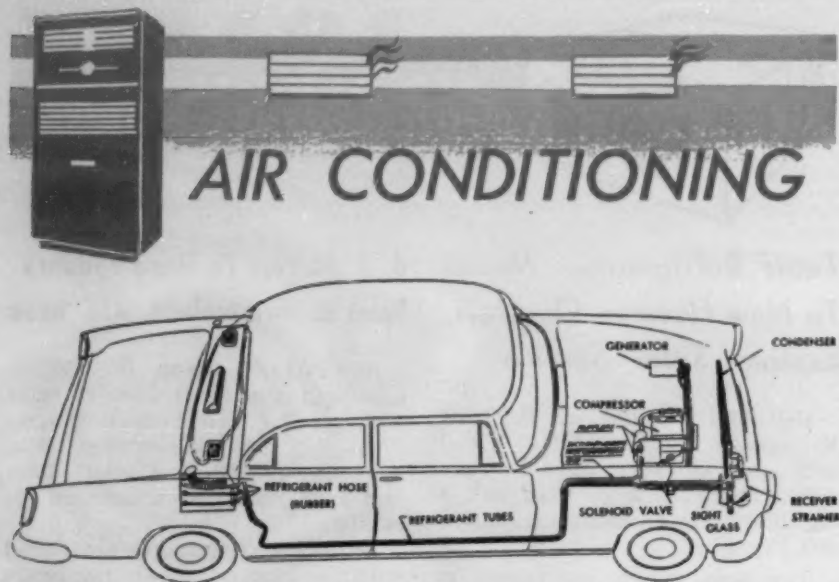
the world's finest room air conditioner

MITCHELL MANUFACTURING COMPANY

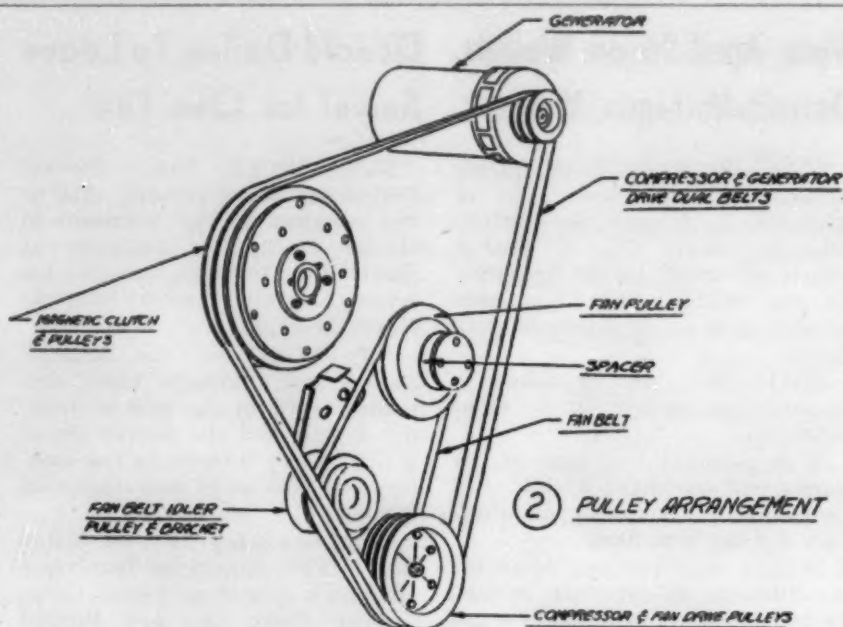
DEPT. AC-3 2525 CLYBURN AVE. • CHICAGO 14, ILL.

IN CANADA • 19 WATERMAN AVE. • TORONTO





LOCATION OF PRINCIPAL parts of the cooling system in new Chrysler automobile air conditioner is shown in this drawing. A number of changes have been made in the 1955 system.



MAGNETIC CLUTCH in new Chrysler automobile air conditioning system operates only when cooling is called for by the air conditioning control. When cooling is not required, the magnetic clutch runs free on a double-row ball bearing hub.

takes place in the evaporator. The interior temperature of the car is then controlled by the blower volume.

When the temperature dial is turned to the second or "cooler" position, a normally open solenoid by-pass valve is energized and total cooling takes place in the evaporator and again the car temperature is controlled by the blower volume.

American Air Filter Branch Sells Herman Nelson Products

LOUISVILLE, Ky. — A new branch office to handle the sale of Herman Nelson products has been opened in Denver, according to John H. Hellstrom, director of sales, American Air Filter Co., Inc. here.

The new office is located at 1660 Gilpin St. and will cover the Colorado and Wyoming district.

Cyril DiMercurio, a sales engineer who has served the heating and ventilating industry in the Denver area for the past six years, has been named manager of the new operation.

Air Filter products of the company in the Denver area will continue to be handled by the Herman & von Rosenberg organization at 1228 California St., Denver. Likewise, American Air Filter dust control products will remain with Richards and Associates, 2415 15th St., Denver.

Chrysler Auto Air Conditioning Design Gets Major Changes

(Concluded from Page 1)
service, with one dealer having the man (or men) trained in this work, and all other dealers sending their work of this nature to him.

Two models of the automobile air conditioner will be offered, and according to information received by dealers, one will sell at about \$525 and the other for just under \$400. While both systems will have the same cooling capacity, the cheaper one will not have a fresh air source and some of the other features on the more expensive model, it is understood.

Both models have a capacity of 1 1/4 tons of refrigeration at speeds of 25 miles per hour. The system circulates air at the rate of 325 c.f.m., and where the fresh air source is used, will provide completely fresh air every 1 1/2 minutes.

Among the major changes in the new Chrysler system over the one used previously are (1) the use of a magnetic clutch (on the more expensive model) in the compressor drive; (2) the elimination of the "underneath" part of the condenser, which was hung in a horizontal position underneath the front part of the chassis; (3) the use of a smaller and lighter (by half) compressor.

The magnetic clutch operates only when cooling is desired. The clutch is controlled by the air conditioning system control setup.

When cooling is not used or not required, the magnetic clutch

pulley runs free on a double-row ball bearing hub.

For prolonged stops in heavy traffic when the cooling system or the blower is being used, a magnetic fast idle unit is attached to the carburetor throttle linkage. Under this condition, the transmission selector lever is moved to the "neutral" position, and the magnetic fast idle unit will automatically increase engine idle to 800 r.p.m. This brings about increased air flow across the condenser and radiator to dissipate heat, and also increases generator output to keep the battery charged.

There are two fresh air vent handles on the evaporator located in the trunk compartment. These handles can be left in the "open" position the year around if the owner wishes to take advantage of the fresh filtered air that would be taken in through the evaporator in cooler weather.

Any water that is picked up by the fresh air scoops during rains or on the wash-rack will flow out the drain pipes in the bottom of the evaporator, and out on the road. These drains are provided primarily for the water condensed from the air on days when the air conditioning system is in operation.

To control the system, two integral control dials (on concentric shafts) are mounted on the instrument panel. They control six different temperature settings for

the car interior and three different volumes of unrefrigerated, filtered, fresh air settings.

The inner dial is the evaporator blower control. It has four positions—"off," "high," "medium," and "low."

The evaporator blower can be operated without operating the cooling system and can be regulated to deliver three different volumes of clean, filtered, fresh air.

In the "high" position, the blower delivers 325 c.f.m., 25% of which is fresh air.

The outer dial is the temperature control dial. It has three positions—"off," "cool," and "cooler." The blower (outer) dial must be on one of its operating positions before the temperature dial becomes electrically operative or receives an electrical circuit.

When the temperature dial is turned to the first or "cool" position, the magnetic clutch engages the compressor and partial cooling

Your Westinghouse Distributor

Mr. Thomas F. Joyce, President of Raymond Rosen & Company, Inc., Philadelphia, says: "We find that Westinghouse National Advertising, plus complete sales promotion back-up, helps our 40 Westinghouse Air Conditioning dealers locate prospects—and make more sales."

AIR CONDITIONING SPECIFICATIONS

**March
21**

This is the much-in-demand annual feature of AIR CONDITIONING & REFRIGERATION NEWS. This issue will be read, studied, and saved by most of the 19,500 paid subscribers. Packed with information, it will be of lasting value to

the men who will sell and service your air conditioning during the coming season.

Here's an opportunity to supplement your company's free specifications listing . . . to tell and show your own sales story . . . with a power-packed, impressive, dominating advertisement to sell all the advantages of your air conditioners.

Advertising forms close March 11.

Reserve your space now.

AIR CONDITIONING & REFRIGERATION News

450 W. Fort Street, Detroit 26, Michigan

Offices: 521 Fifth Ave., N. Y. 17; 134 S. LaSalle St., Chicago 3; 15315 Detroit Ave., Cleveland 7.

ASHAE Study Finds:

Cooled Ceiling Panel Can Remove 20 B.t.u. Per Hr. Per Sq. Ft. of Surface

PHILADELPHIA—A cooled ceiling panel can remove as much as 20 B.t.u. per hour per sq. ft. of surface operating at 10° F. below room temperature, it has been found in studies at the Research Laboratory of American Society of Heating and Air-Conditioning Engineers.

Preliminary report of this research was presented at the 61st annual meeting of the society here in a paper prepared by L. F. Schutrum, John Vouris, and T. C. Min.

This study, however, did not include the important factors of conditioned air, electric lighting, and solar effect, which are being considered in additional work already in progress.

One of the conclusions reached by the authors was that "ceiling-panel cooling is an inversion of floor-panel heating, and the performance of a cool ceiling panel can be predicted from the performance of a warm floor panel."

But some objection was raised to this conclusion at the meeting.

Three factors which can be neglected in design of panel cooling systems were cited by the authors: the effects of non-uniform

environment, non-uniform panel temperature, and room furnishings.

The tests showed that room furnishings reduce the heat pick-up of the panel by "about 5%, which is about the same as the reduction in the output of a heated floor panel caused by a like amount of furniture in earlier tests."

Regarding the non-uniform panel temperature, the authors explain:

"One test was made with only a part of the ceiling area cooled. The temperature of the uncooled sections was not controlled, but was the equilibrium temperature resulting from heat exchange with other room surfaces and the room air, heat gain or loss from the rear of the panel, and conduction from piping and adjacent panel sections."

"The area-weighted average rate of heat removal from the entire ceiling was essentially the same as the calculated heat removal based on the area-weighted average ceiling surface temperature."

"The observed room-air temperature agreed well with the air temperature calculated by the inversion principle when using the same average temperature of the

entire ceiling. An earlier paper," the authors point out, "indicated similar performance for heated floor and ceiling panels at non-uniform panel temperatures."

Non-uniform wall and floor temperatures (environment), the authors state, "can be represented by area-weighted average temperatures in calculating heat pick-up by a cooled ceiling."

Factors that must be considered for design purposes with cooled ceiling panel systems, they found, include infiltration of warm air and "low temperature" internal, convection heat sources. Among the latter are motors and people, they said.

Dole Names DeBaugh Chicago District Sales Manager

CHICAGO—Dole Refrigerating Co. announces the appointment of Howard W. DeBaugh, former applications engineer, to district sales manager, Chicago metropolitan area.

DeBaugh, a veteran of more than nine years service in the Dole sales organization, takes over the post vacated by the retirement of L. E. Smith, covering Cook, Kane, DuPage, and Lake counties.

H. W. DeBaugh

entire ceiling. An earlier paper," the authors point out, "indicated similar performance for heated floor and ceiling panels at non-uniform panel temperatures."

Steeple Provides Only Available Space For 25-Ton Air Conditioning System

MOREHEAD CITY, N. C.—The little First Methodist church in the downtown section of this southeastern coastal resort is probably the first to have air conditioning along with bells in its steeple.

Prior to installation of the air conditioning equipment, the church was beset with several major problems:

1. Construction of a new education building had cut off ventilation in the sanctuary. As a result, temperatures were intolerable during Sunday morning services.

2. Long motorcades from the nearby military training camp frequently passing through the city and in front of the church on Sunday mornings and the inevitable din of street noises, added to the difficulty.

3. There was also an internal problem of excessive humidity.

4. Attendance was always highest in the summer when vacationists and weekenders came to the shore, but the discomforts resulting from the little church's downtown location discouraged larger congregations.

To build another church outside the city was a possibility, but that would have required a large expenditure of money. The present edifice had only recently been built and the members did not feel that their church should be abandoned, torn down, or sold.

The answer was found in air conditioning, but the modern little church, heated by a radiant system from pipes embedded in the concrete floor, had no ductwork and no available space to install packaged conditioning units.

Stahl-Rider Kinston, Inc. in Kinston, N. C., dealer for Carrier Corp., solved the dilemma by installing a Carrier reciprocating compressor providing a capacity of 25 tons of cooling in the unused area inside the steeple.

An overhead duct system for distributing cool, dehumidified, and filter-clean air served by a Carrier central system "Weathermaker," was also located in the steeple. On the roof of the adjacent Sunday School a Carrier evaporative condenser was placed, saving approximately 95% of the water used in refrigeration condensing.

Individual Temperature Control Featured In New Minneapolis-Honeywell Regional Office Building

LONG ISLAND CITY, N. Y.—Individual control of office temperatures the year around is the outstanding feature of the new office building recently opened by Minneapolis-Honeywell Regulator Co. at 24-30 Skillman Ave. here.

It will serve as the firm's eastern regional headquarters covering New Jersey, New York, and all of New England.

The new two-story building, near the Hunter's Point station, will enable Honeywell to bring all of its 250 New York City employees under one roof from several scattered office buildings, including the eastern regional offices leased at 221 Fourth Ave., Manhattan, Fred Kaiser, eastern regional manager, said.

The company's newest electronic controls will regulate temperature the year around. Thermostats in

each of the 24 offices as well as in two conference rooms and service and storage rooms, will provide individual temperature control by finned tube radiation heat using the electronic "Moduflow" principle in the winter and by air conditioning in the summer.

An electronic indicating system centrally located monitors the entire system, giving instant temperature information for all rooms.

Other features of the building include contrasting colors on walls in every room, sound-proof conference rooms, and aluminum window and door frames.

To Cool New Dallas Building

DALLAS—A three-story, \$1,285,000 office building to be constructed for Republic Insurance Co. and Vanguard Insurance Co. will be completely air conditioned.

Increases Your Profit with . . .

A Complete Sales Promotion Package To Locate Prospects—Close Sales

Without a doubt your Westinghouse distributor can supply you with the most complete, up-to-date, powerful promotion package in the industry. And all of it has been designed for you with one purpose in mind—to help you locate potential buyers and close Westinghouse air conditioner sales.

Everything that can help you sell has been made part of this program. Just check this list!

Local Identification and Display Material . . . Telephone Directory Listings . . . Truck Painting Package . . . Newspaper Advertising . . . Direct Mail . . . Radio and Television Advertising . . . Catalog and Data Sheets.

Your Westinghouse distributor is the man to see for complete information on a program that will give prospects the information they want, strongly identify you as a Westinghouse air conditioning dealer, build confidence in you as a businessman.

The Westinghouse Promotion Package will develop leads that you can connect to sales. Call or write your Westinghouse distributor or fill in the coupon below for the full story on this year's biggest promotion offer. Make '55 the best, most profitable year you've ever had!

National advertising in SATURDAY EVENING POST, BETTER HOMES & GARDENS, TIME, BUSINESS WEEK, SMALL HOMES GUIDE AND HOUSE AND HOME, plus many more tells everybody you're the man to see for the best of buys in air conditioning.

Westinghouse brand name advertising and promotion . . . including 2 TV shows (Best of Broadway and Studio One) make Westinghouse a household name.

YOU CAN BE SURE...IF IT'S

Westinghouse

MAIL THIS TODAY

Westinghouse Air Conditioning Dept. R-2
Box 510, Staunton, Va.

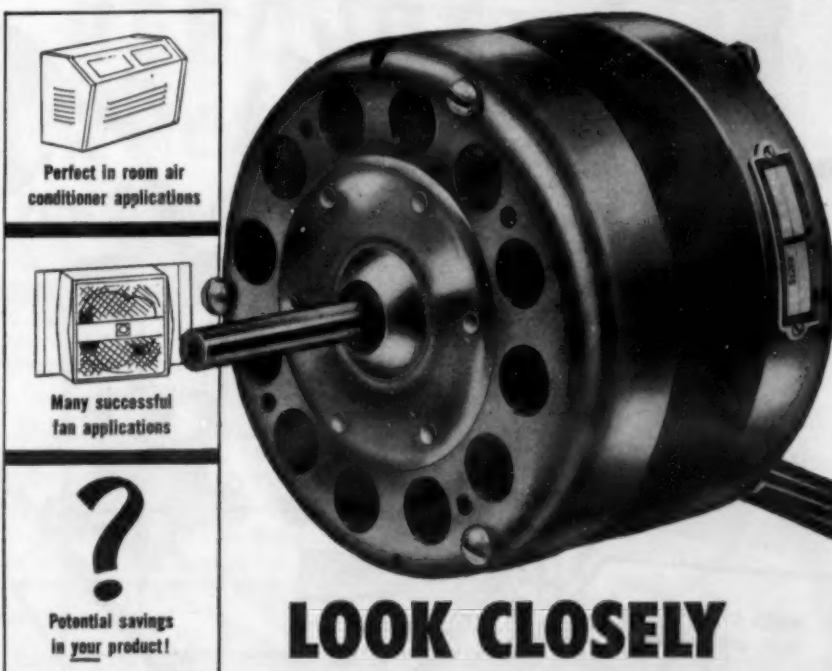
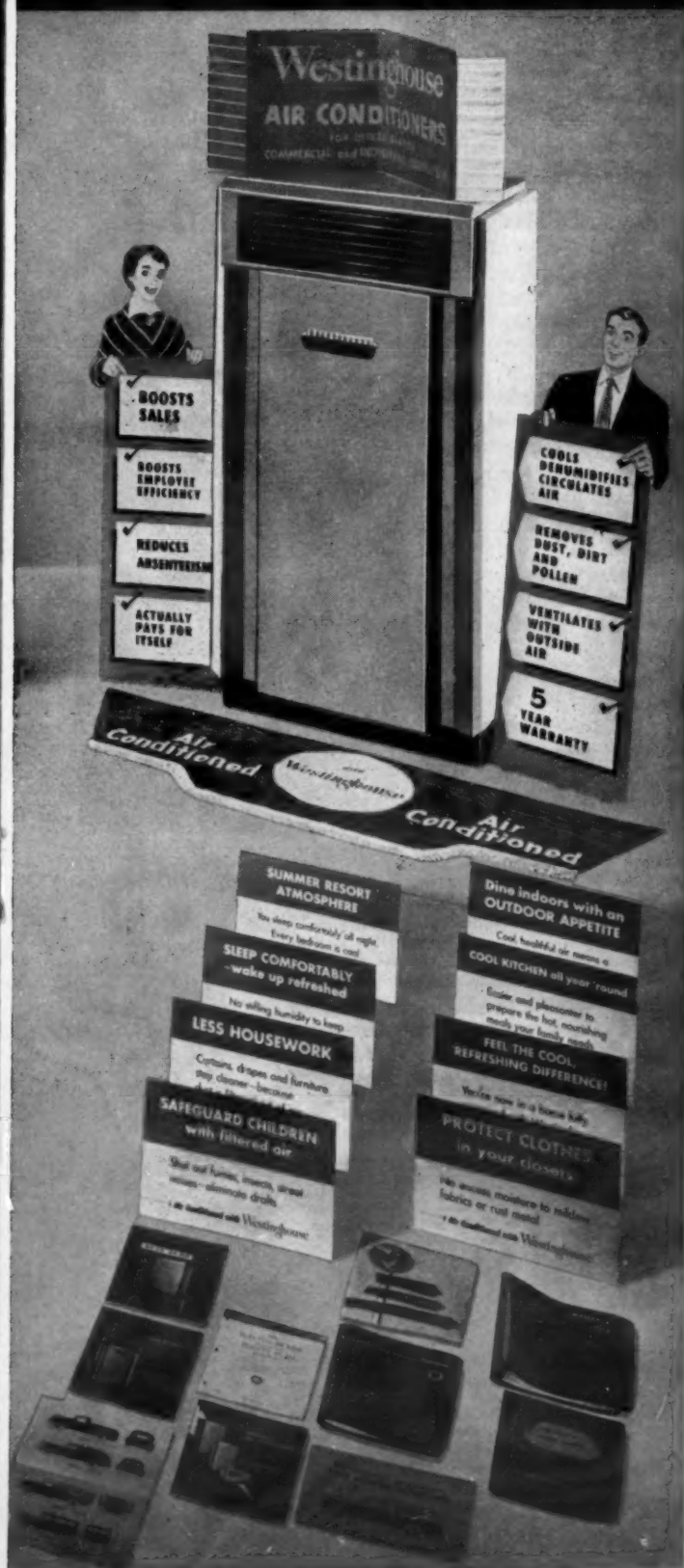
I want the complete story on the 1955 Westinghouse Air Conditioning Line . . . and Sales Promotion Package—"Invitation to Leadership."

☐ I am not yet in the air conditioning business
☐ I am now an air conditioning dealer
☐ I now handle the following lines: . . .

NAME . . . (please print)

ADDRESS . . .

CITY . . . ZONE . . . STATE . . .



LOOK CLOSELY

this new LOYD SCRUGGS

6-pole shaded pole motor may be your answer!

If you're looking for reliable custom-built motor service at stock motor prices, let Scruggs be your source of supply. Sample motor to your specs can be furnished immediately. New plant facilities now permit wider scope, quick deliveries, lower pricing.

You can stake your reputation on SCRUGGS MOTORS

CHECK THESE QUALITY FEATURES

1. Copper-weld rotor for uniform performance.
2. Long-life sintered bronze bearings.
3. Extra large oil reservoirs.
4. Extremely quiet running.
5. Rotor electronically balanced.
6. Double varnish impregnation.
7. Design practically eliminates AC hum.

THE *Lloyd Scruggs* COMPANY
Festus, Mo.—A Dazey Corporation Subsidiary
MANUFACTURERS OF PRECISION INSTRUMENTS SINCE 1934

Restaurant & Bar Equipment

Bermuda Bound

Frigidaire 'Winerama' To Reward 98 for Top Commercial, Air Conditioning Sales

DAYTON — Ninety-eight all-expense trips for two to Bermuda on March 11 are the grand prizes in a nationwide commercial refrigeration and air conditioning "Winerama" sales contest conducted by Frigidaire Div. of General Motors.

The grand prize winners and wives will visit New York City, staying at the Waldorf Astoria hotel, spending an evening at a famous night club, and then sailing for Bermuda on the luxurious ocean liner, *Queen of Bermuda*.

During their sojourn at the island paradise, the group will stay at the Castle Harbor hotel and en-

joy yachting, swimming, fishing, golf, and other recreational activities.

In addition to the grand prizes, hundreds of other valuable merchandise prizes have been awarded to all participating dealers on the basis of sales quotas and merit points.

These merit points for each sale were more than doubled after the dealer achieved his quota, and were in addition to the grand prizes awarded to the top performing dealers.

Grand award winners could elect to receive prize points for merchandise in lieu of the Bermuda trip.

A New Vice President, 2 Directors for Friedrich

SAN ANTONIO—Reese L. Harrison, president of Friedrich Refrigerators, Inc., announced recently that Julius Brinkoeter has been promoted to first vice president and Brent Oberer and Jack Pritchett have been elected to the board of directors.

Brinkoeter has been associated

with the company for more than 32 years.

Oberer is national sales manager of Friedrich's air conditioning division and Pritchett is national sales manager of the commercial refrigerator division.

Both have had extensive experience in their respective fields.

York Announces Three Winners of Ice Service Equipment Sales Contest

YORK, Pa.—I. M. Richardson, vice president and general manager, Gulf-York, Inc., one of the top distributors of York Corp., came to York recently to supervise determination of the winning distributors in York's nationwide prize flight contest for ice service equipment who were given expense-paid trips to Bermuda, Puerto Rico, or Virgin Islands.

The winners are Atlantic Engineering Co., Inc., Greensboro, N. C.; T. Louis Murray, Columbia, S. C.; and Washington Refrigeration Co., Washington, D. C.

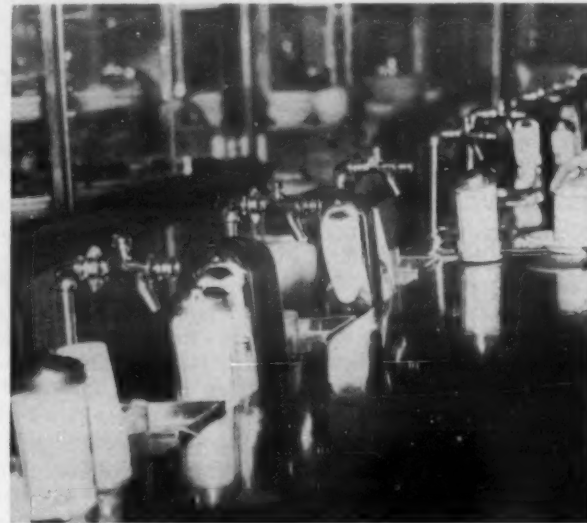
Richardson earned this honor because his organization did an outstanding job in the contest.

Wagner, Driver Form Sales, Service Firm

PIQUA, Ohio—Russel Wagner and Carlyle Driver have formed Wagner Sales here for the sales and service of appliances.

Wagner will be service manager and in charge of commercial refrigerator sales.

Driver will be in charge of sales promotion and general sales. For the past seven years he was district manager for Kelvinator Div.



INDIVIDUAL WATER TAP and stack of paper cups at each of 14 stools at the counter of Stocker's Restaurant, Denver. Customers serve themselves while waiting for orders to be taken and served.

Answer to 'Another Glass of Water, Please'

Individual Spigots Speed Counter Turnover, Cut Waitress Serving Time, Boost Restaurant Profits

DENVER—No matter where he may be sitting along the counter rail of Stocker's Restaurant here, the patron can serve himself with ice water.

The reason is a unique refrigerated water installation made by Colorado Equipment Co. to end the perennial problem of keeping patrons supplied with water.

In making an efficiency survey a little more than two years ago, Mrs. M. E. Stocker, head of the restaurant, found that the constant requests of customers for extra glasses of water was one of the worst time-wasters with which the busy restaurant had to contend.

Often, it was found, the number of trips made by waitresses to serve the customer an extra glass of water equalled the number of trips for the delivery of food.

The total amount of time consumed in water service was "staggering," as Mrs. Stocker put it. Consequently, she determined to "put water on a self-service basis" and keep waitresses' time concentrated on taking food orders and delivering them.

The result was the installation of an individual, chrome-plated spigot at each stool, down the length of the 14-stool rail. Each water tap rises about the rail 10 in., and is operated by a simple pushbutton control, which admits a slow, measured flow of water to prevent accidentally soaking the countertop—and the customer.

Directly below each spigot is a small stainless steel drain tray, 8 in. long by 4½ in. wide by 1 in. deep. All trays are connected to a single drain pipe to carry away excess water.

Water is fed into the system from a 5-gal. refrigerated tank, powered by a ½-hp. Tecumseh refrigeration unit, which keeps it at a temperature of between 50 and 55° under normal operating conditions.

Now, as every patron seats himself at the counter, he finds a stack of paper cups beside the water tap, and can simply "help himself" to a refreshing drink of water while studying the menu or while waiting for the waitress to take his order.

Then, through the meal, the customer can simply give himself a refill, as desired. There are no "water interruptions" for the waitress to handle.

Turnover along the counter is much more rapid and the installation has attracted much publicity to the restaurant, according to Mrs. Stocker.

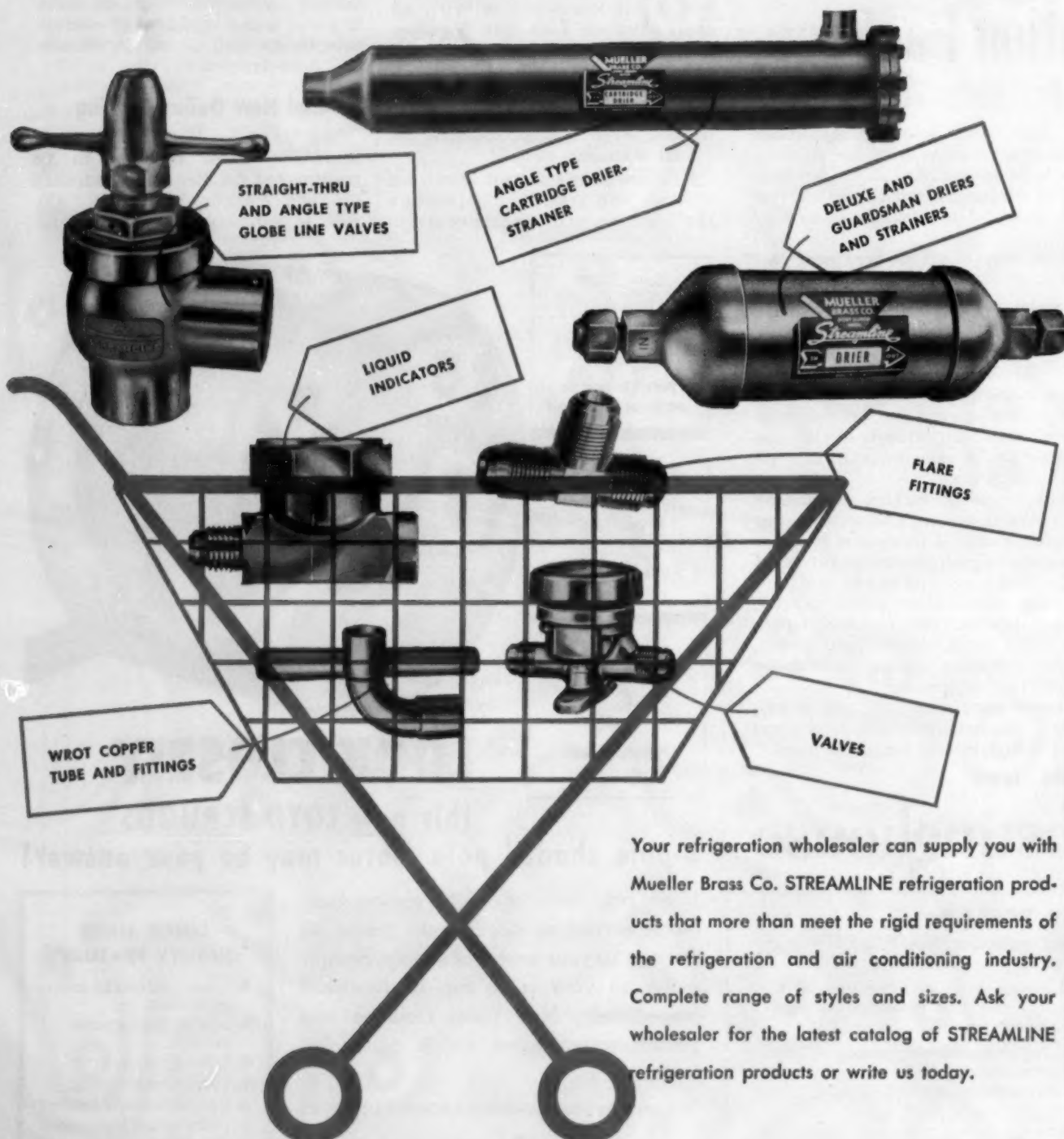
It's Bohrer-Reagan Now

READING, Pa. — The newly-formed Bohrer-Reagan Corp. has taken over the commercial refrigeration and air conditioning business of the B. O. R. Corp. The B. O. R. Corp. is no longer engaged in this phase of the operation.

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MUELLER BRASS CO. MANUFACTURES A COMPLETE LINE OF VALVES, DRIERS, FITTINGS

AND ACCESSORIES FOR EVERY NEW COMMERCIAL INSTALLATION AND EVERY REPLACEMENT NEED . . .



Your refrigeration wholesaler can supply you with Mueller Brass Co. STREAMLINE refrigeration products that more than meet the rigid requirements of the refrigeration and air conditioning industry. Complete range of styles and sizes. Ask your wholesaler for the latest catalog of STREAMLINE refrigeration products or write us today.

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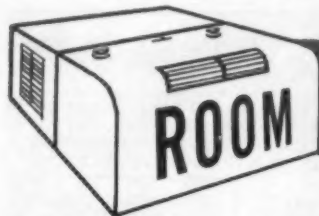
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AIR CONDITIONERS

4 Frigidaire Direct Mail Campaigns Feature 'Good Ole Days' Theme

DAYTON—Four new direct mail campaigns for window air conditioners, store units, central home units, and ice cube makers using a reminiscent "good ole days" approach has been prepared for its dealers by Frigidaire Div. of General Motors Corp.

The company describes the mailing pieces as "friendly, breezy, and easy-to-take, but with down-to-earth selling all the way through."

For each product line, the campaign will consist of three mailings. First to go out is a 4-page folder with good ole days cartoon and story, with a note-size letter and reply card, both of which carry the dealer's imprint.

Two weeks later is sent a 3-fold self-mailer with an approach in copy and art that is again light and breezy. Dealer's imprint is actually his address on the tear-off reply card.

The final piece is a full color 6-page broadside that illustrates the complete Frigidaire line of that product.

MAILINGS ARE AUTOMATIC

Mailings are all automatic, the company explained. The dealer gives his list of names to Graphic Service, a Dayton direct mail agency, and specifies the starting date for each series. The mailing house does the rest. Cost is split between the dealer and Frigidaire.

The direct mail agency also supplies the dealer with a follow-up file, showing the names of prospects who got mailings, what campaign they got, and when. The dealer uses this file as a guide for his personal selling.

The ice cube maker piece harks back to the days when ice was cut in winter from the mill pond and saved 'til summer. It stresses the money saving theme through the use of an automatic ice maker.

The air conditioning pieces stress the health angle as much as the comfort theme, and for store coolers, the money making aspects.

As an example of Frigidaire's "light, breezy" approach, here is how the pieces go about selling room air conditioners.

Cartoon shows dust flying through grandma's open window on a hot summer day causing grandma to sneeze and drop the potted plant she was carrying.

Copy caption reads: "In grandma's day . . . a sneeze with every breeze."

"Grandma's life was full of dust," copy says. "It clung to her skirts, burrowed into her sofa, settled on all the furniture . . . and

blew in the open windows all summer long.

"Grandma, between sneezes, did the best she could with that old feather duster, to keep the dust moving around . . . and up in the air, so she could (Bless her) sneeze again.

"The world is different . . . better, today.

"Turn a dial on Frigidaire's room conditioner and the dust, pollen, dampness, and heat of summer fade away. Healthful, dry, cool air fills every corner of the room . . . and you feel better, eat better, sleep better, live better—because you're living in today's world.

"Say goodbye to Grandma's frustrations and hello to summer happiness . . . with a Frigidaire room conditioner . . . you'll be glad you did."

The remainder of the copy tells "why you will like Frigidaire conditioners."

The accompanying note reads: "WE'VE COME A LONG WAY SINCE GRANDMA'S DAY."

" . . . mother said recently. 'We don't suffer in the summer the way she did. We suck dust up in vacuum cleaners, and have antihistamine for nasal irritations caused by dust and pollen allergies.

"Insulated houses don't get quite as hot in the summer, either, and while electric fans don't cool the hot air, they do move it around . . . we even know what to do for mildew."

"Sure, mother has it a lot better than her mother did, but . . . all those things are like buying rubber gloves because your fountain pen leaks.

"The real answer to heat and dust today is to keep them outside . . . and to live in cool, clean, dry, comfortable conditioned air.

"When you get a Frigidaire room conditioner, you do just that. What you really buy is a happier, more healthful climate."

SECOND MAILING PIECE

The second mailing piece puts its message in the form of a letter written by the prospect to the dealer—just the reverse of the normal procedure. The letter reads:

"Dear Sir:

"You mailed me some information about Frigidaire conditioners several weeks ago and I was somewhat interested.

"You offered a 'free survey' of any room I want to cool, 'without obligation,' if I'd send in the card.

"Actually, your story about what air conditioning will do for me and my family sounded good. Since then I've talked to other people who have it. They say they sleep, eat, work, relax, and feel

better all summer long. They run fingers over the furniture and tell me they have 'no dust at all.' I know it filters out pollen and cuts down 'summer sniffles,' too.

"So I ought to know more about it—and I'd like to.

"Here's how you can help me:

"I would like to know what size Frigidaire conditioner I'd need for my room and how much it would cost. I'd like to talk to you in person . . . but only if, after I hear your story, I can tell you 'No' if I want to, and let that be that.

"Come on over. Tell me quickly what I'd need, then let me decide, OK?"

"Sincerely,"

Below was space for the prospect to sign his name and address. This portion of the message was on a return postcard that the prospect could easily detach and mail.

The final piece was a straight piece of literature giving all details on all models in the line and emphasizing the company's special features.

Skeffington Heads Furniture, Dept. Store Sales for Kelvinator

DETROIT—Appointment of Robert E. Skeffington as manager of department and furniture store sales was announced recently by Homer L. Travis, manager of retail distribution for Kelvinator Div. of American Motors Corp.

Travis said Skeffington will be responsible for all such sales on a national basis. Skeffington became a Kelvinator district manager in Chicago in 1947. He joined the factory staff in 1951 and has served as national sales representative with the kitchen cabinet division and as regional sales representative handling liaison between factory headquarters and distributors.

Jaeger will manage Washington, Oregon Area for Mitchell

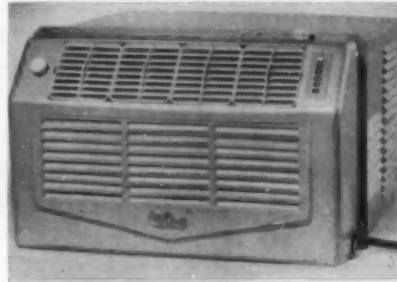
Jaeger Will Manage Washington, Oregon Area for Mitchell

CHICAGO—August H. Jaeger, Seattle, has been appointed a district manager for The Mitchell Mfg. Co., it was announced by E. A. Tracey, general sales manager of the air conditioning division.

Jaeger will represent the company in Washington and Oregon, handling Mitchell's entire line of room air conditioners, commercial lighting units, radio and television sets, and high-fidelity phonographs.

Prior to joining Mitchell, Jaeger was associated with the Hotpoint Co., most recently as national manager of the water heater and utility divisions. He previously was vice president in charge of sales of the Leonard Refrigeration Co. and vice president of the Kelvinator Sales Corp., Detroit.

King Flush Mounted Room Conditioners Available with Heating and Cooling



GLENDAL, L. I., N. Y.—Flush-type 1955 room air conditioners with pushbutton control and offering separate arrangements for cooling, ventilating, and heating have been announced by King Refrigerator Corp. here.

The new line includes 1/2, 3/4, and 1-hp. sizes. The air conditioners will be manufactured in 115, 208, and 230-volt models in the 3/4-hp. size and 208 and 230-volt models in the 1-hp. size.

Prices were reported as follows: Model K500, 1/2 hp., \$269.95; K750, 3/4 hp. standard, \$329.95; K750T, 3/4 hp. deluxe, \$339.95; K1000T, 1 hp. deluxe, \$389.95.

All deluxe models incorporate thermostats. Heating elements are included in some models.

King air conditioners are finished in a sea green and beige baked enamel. The entire exterior

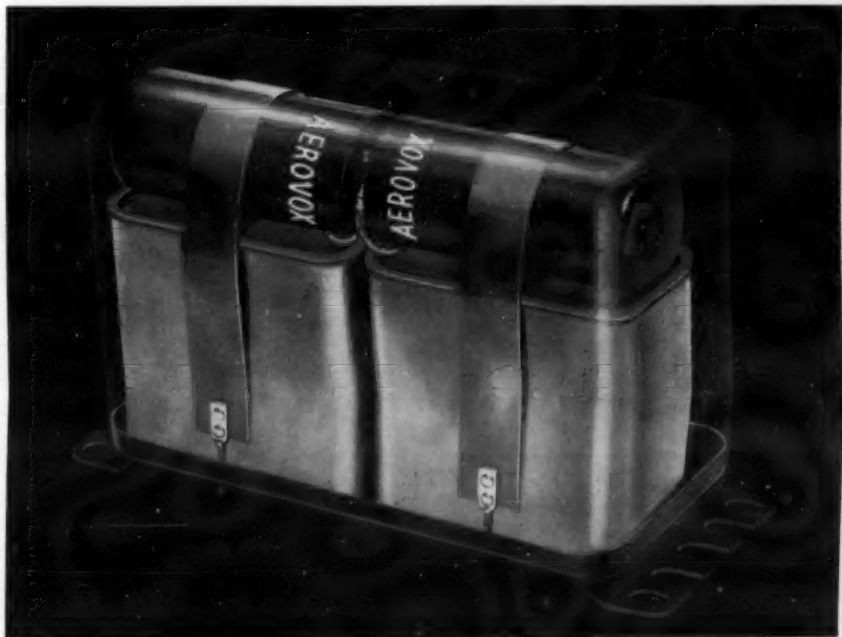
shell is constructed of galvaneal, heavy-gauge steel, Bonderized and then finished in two coats of Du Pont special enamel to prevent rusting of the cabinet, the company pointed out.

"We have improved our mounting brackets, and tests we have made on the installation of the new 1955 King air conditioner have proven that a unit can be installed in approximately 30 minutes by the average layman with just a simple screw driver, hammer, and pliers," M. Herbert Koeppel, president, said.

"With the simple 'Do It Yourself' instructions in our new manual, an average person will be able to easily install our air conditioner.

"Another feature on the mounting of our 1-hp. unit allows the placing of the air conditioner either flush with the window sill, half inside the window and half outside, or flush with the outside wall, or neatly mounted in a transom or mounted below the window sill and through the wall.

"Our units will also feature four-way directional flow of air and because of engineering improvements the flow of air will be greater. All units are designed to permit easy access to filters."



AEROVOX Packaged

POWER FACTOR CORRECTION FOR ANY AIR CONDITIONER

The logical solution to the serious and growing electric power and wiring problem faced by air conditioning equipment . . .

Complete unitized assembly of all capacitors necessary in the efficient operation of air conditioners of any size. Such packs include starting capacitors, running capacitors and fan capacitors. Plus relays, pressure controls, fuses and other control devices, if desired.

Aerovox packs are available in either conduit-type boxes with BX cable and standard fittings, or in special rain-tight containers designed to meet all UL requirements. Featuring . . .

- Thoroughly engineered capacitors by Aerovox capacitor specialists, in handy pack form.
- Lower cost through elimination of multiple handling charges and resultant shrinkage.
- Tailored as an integral whole to meet specific needs.
- Complete assembly, with leads for external connections.
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- Housings finished to suit individual requirements as to color, etc.
- Rugged, dependable, guaranteed, logical.

WRITE FOR DETAILS!

Let us collaborate on your power-factor-correction, motor-starting, motor-running and other capacitor requirements. Literature on request.



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New Masculine Challenges

Once upon a time there was a family—father, mother, teenage daughter, and little brother who lived in a nice home with all the modern conveniences, so many, in fact, that—well here's what happened one typical evening.

After a fine dinner cooked on an electric range, mother put the dishes in the electric dishwasher and decided to wash an extra load of clothes in the automatic washer.

Junior decided (while mother was in the basement) that now would be a fine time to go along and run his new electric train in the recreation room. Whereupon everybody turned on all the lights downstairs.

Meanwhile, daughter flicked the switch on the electric water heater before bedtime, and went into her room to listen to records on her automatic record player.

Father headed for TV in time to catch the sports final when pffft! Everything went black—no power—a fuse just blew!

Clothes stopped tumbling in mid-cycle. The train eased to a stop. The record player groaned and quit. Must be a loose connection somewhere, father reasoned as he fumbled in the dark for a new fuse.

New fuse is in place. Power is restored. And the family activities began again for a few minutes.

Whoosh! Another fuse blows.

By nature, the fuse is a safety device. When too heavy a load is put on the line, Mr. Fuse cuts off the power by blowing out—thus preventing fires and explosions.

A conservative estimate by the National Adequate Wiring Bureau (affiliated with NEMA) reveals that 80% of new homes are below par for wiring, and 83% of the single dwellings are more than 10 years old. Age alone would indicate major rewiring should be considered. In round figures, this means there are

They'll Do It Every Time . . . Jimmy Hatlo



20 million homes in which wiring is both inadequate and unsafe.

Increased use of appliances and air conditioning has been a major factor in the problem.

In 1930 there were about 20 appliances in general use. Now there are nearly 60—air conditioning, television, extra radios and hi-fi systems, electric skillets, roasters, and mixers—to name only a few.

"As many as 428 million electrical appliances can be sold in the next 5-year period—if the electrical appliance dealer and the electrical industry as a whole begins to sell and promote adequately wired homes," Lester E. Barrett, president of the National Association of Electrical Distributors, estimates. He bases his guesstimate on the assumption that in that period there will be six million more families—52 billion dollars of disposable income—10.5 million new homes built—and hundreds of thousands of families adding new appliances to existing homes.

More families, more money, more appliances to buy—428 million more. But what about the customers with electrical wiring distribution systems which are incapable of handling the additional load? What good are all the wonderful things to come if they can't be used?

One of the most persuasive campaigns for safe home wiring is being offered by Commonwealth Edison Co. of Chicago which sells power to 600,000 homes. Working locally with electrical contractors, Commonwealth has agreed to take care of any modern range, clothes drier, air conditioner, auxiliary heater or water heater.

In addition to outside wiring, the company has offered to help in the financing of heavy-duty inside switches, special circuits for appliances, and any other inside wiring that the customer wants—up to \$100.

Reason: Appliances listed run on 240 volts requiring an outside cable carrying not two but three wires. According to the National Adequate Wire Bureau, power supply in the 20 million homes without adequate wiring is 120 volts and comes in on two wires. This was barely adequate before the advent of washing machines, clothes driers, and electric ranges.

A 240-volt outside supply has two advantages. First: It's designed to carry the power that modern appliances need. (Last summer many people who bought room air conditioners could never use them because their 120-volt circuits were inadequate.) Advantage No. 2: With a 240-volt, 3-wire supply, a homeowner can run as many as ten 120-volt circuits inside the house. With the usual 120-volt outside supply, the best he can do is four circuits.

Emphasizing the seriousness of the inadequate wiring problem, Barrett further pointed out that, "Consolidated Edison Co., New York, found, in a survey of 8,539 single family homes in Westchester, N. Y. area, that 78% of these homes are inadequately wired even for their present electric loads. At the same time, the surveyors learned that 4% of these same homeowners were planning to buy clothes dryers and 14% want to buy room air conditioners."

It's mighty frustrating to have these new products available and on the "wanted" list, then not be able to use them just because the lines aren't heavy enough for the load.

Manufacturers and dealers: Let's sell safety along with the world's best electrical living. Let's sell Adequate Wiring!

Science has made the world a great neighborhood, but religion must make it a great brotherhood.

Every fight starts long before the first blow is struck.—
DOROTHY CANFIELD FISHER.

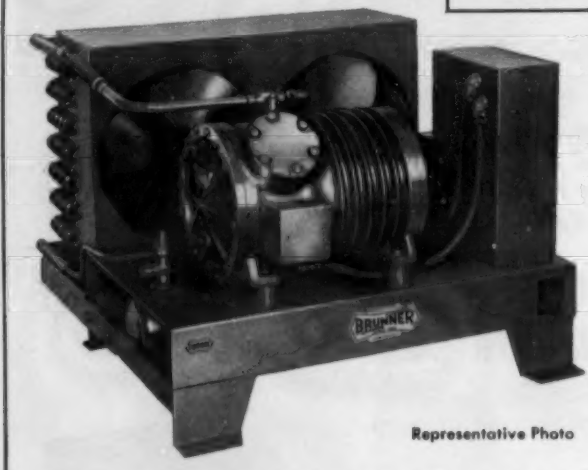
Fall-out of radioactive dust and moisture from one H-bomb could be fatal within 12 minutes to every exposed person in a 250-square mile area, and the danger might include 4,000 square miles. Officials are guilty of a shameful attempt to minimize the danger of H-bomb radioactivity.—DR. RALPH LAPP.

Now BRUNNER-METICS AVAILABLE IN SIZES FROM 1/4 H.P. THROUGH 3 H.P.

With this complete Brunner-Metic line . . . engineered all the way for top performance . . . you can now satisfy more customers who rely on the Brunner name for dependable refrigeration.

These new Integral Brunner-Metics, like the fractional horsepower units, are compact . . . completely adaptable . . . lightweight . . . quiet . . . designed for easy servicing on the job.

New 1 1/2, 2 and 3 H.P. INTEGRAL BRUNNER-METICS



Representative Photo

INTEGRAL AIR-COOLED BRUNNER-METIC

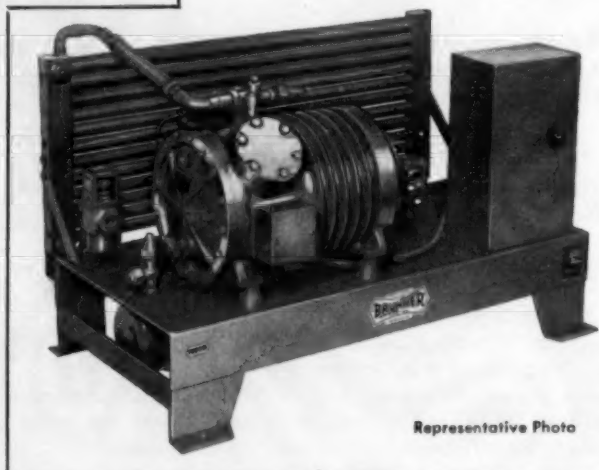
. . . now offered in 1 1/2, 2 and 3 H.P. models. Other Air-Cooled Brunner-Metics available in 1/4, 1/2, 3/4 and 1 H.P.

- Bolted construction for easy field servicing . . . removable compressor head angled for easy loosening of head bolts . . . valve plate easily replaced.
- Oil snifter plugs allow positive check on oil level.
- Forced lubrication by slinger wheel feeds oil through drilled crankshaft.
- Large area suction strainer, easily serviced.
- Motor cooled by cold suction gas returning to compressor.

- Cylinders integral with main bearing and motor housing casting.

- Motor stator pressed into compressor housing for perfect alignment.

- Improved compact, lightweight construction.



Representative Photo

INTEGRAL WATER-COOLED BRUNNER-METIC

. . . now offered in 1 1/2, 2 and 3 H.P. models. Other Water-Cooled Brunner-Metics available in 1/4, 1/2, 3/4 and 1 H.P.

Here's the Complete Brunner-Metic Line

- AIR-COOLED
1/4 H.P. through 3 H.P.
- WATER-COOLED
1/2 H.P. through 3 H.P.
- AIR-AND-WATER COOLED
1/2 H.P. through 3 H.P.
- CAPILLARY TUBE MODELS
1/4 H.P. through 1 H.P.
- TRUCK UNITS
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See your Brunner Distributor, or write today for complete information.

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How Will 'Atom Treatment' of Foods Affect Refrigeration?

Gamma Irradiation (Pasteurizing Instead of Sterilizing) Method Might Bring About Increased Use of Commercial Refrigeration

PHILADELPHIA—"Gamma irradiation" of fresh foods, which might be done cheaply as a by-product of atomic energy production, could result in increased use of refrigeration, rather than serving to decrease the use of mechanical cooling equipment.

This was brought out in the paper "Increased Refrigerated Storage Life of Fresh Foods by Gamma Irradiation," prepared for the recent annual ASRE meeting here by L. E. Brownell, L. L. Kempe, R. C. Dennis, and J. T. Graikoski. The report was based on studies made at the University of Michigan.

Increased Life for Produce

The possibility of extending the use of refrigeration, particularly in retail food stores, would come about through the use of gamma ray pasteurization of such items as potatoes, onions, and possibly other vegetable produce not normally held under refrigeration in the food store. Irradiation of potatoes, for example, might be done at a cost of \$4 a ton, and could keep potatoes in good shape (under refrigeration) for long periods of time.

The process would also extend the refrigerated shelf life of meats, and could eliminate any danger from trichinosis in pork, for example.

Recent studies at the University of Michigan, the paper stated, have demonstrated that *pasteurizing* gamma radiation doses equal 1 to 2% of the *sterilizing* dose can be used to reduce the population of microorganisms 90 to 99% without producing undesirable changes in the food.

Gamma ray *pasteurization*, therefore, refers to a killing of microorganisms throughout a food item and is not to be confused with surface pasteurization affected by various types of machine accelerators. Gamma ray pasteurization can be used to increase the permissible handling time of refrigerated items, such as fresh meats, fish, poultry, produce, the paper pointed out.

Prevents Potato Sprouting

The radiation pasteurization of potatoes has been found to be very successful in preventing sprouting and spoilage of potatoes under refrigerator storage without developing undesirable changes. Certain types of potatoes, such as Idaho russets, are preferred for baking, French fries, etc. These potatoes are available only about eight or nine months of the year because it usually is not possible to keep potatoes in refrigerated storage for longer periods because of the occurrence of sprouting followed by rapid deterioration.

The Fission Products Laboratory stored 400 lbs. of irradiated Idaho russets of the 1953 crop. Tests with these and other irradiated potatoes have demonstrated that irradiated mature Northern potatoes can be kept in refrigerated storage from one year until the next, thereby making desirable types of mature potatoes available the year around.

No Objectionable Flavor Changes

Taste panel studies have shown

that irradiated potatoes have a very slightly different taste than the controls but that the new taste is not objectionable and was actually preferred by some members of the taste panel. Statistically analyzed data from over 2,100 taste tests have indicated no preference by a naive taste panel for either the irradiated potatoes or the controls. The optimum radiation dose it believed to be about 10,000 rep.

Although less is known about the use of radiation in treating other vegetables, recent experiments at this laboratory have indicated that the refrigerator storage life of onions and of shredded cabbage for cole slaw can also be increased materially by radiation pasteurization and it is presumed that such treatment might be applied to a variety of vegetable produce, the paper declared.

Storage Life of Meats Lengthened

Since microorganisms play a major role in the spoilage of meat and meat products, their storage life at refrigerator temperatures should be increased by keeping the microbial flora at a minimum. Rigid sanitation practices by meat packers and meat processing plants have done much to increase the storage life of meats, it was stated, but the subsequent exposure of meat to air and contaminated surfaces makes the control of the microbial population a difficult problem.

Radiation dosages needed to inactivate vegetative forms of microorganisms are much lower than those required for bacterial spores. Decreasing the vegetative microbial flora sufficiently to prolong the storage life of meat at refrigerator temperatures should require a much smaller dose of gamma radiation than is required for sterilization and destruction of spores.

No detectable differences in either color or odor were noted in laboratory meat samples immediately after irradiation. After five days of storage, both the inoculated and uninoculated controls had a pronounced putrid odor.

Initiation of spoilage in the sample receiving a radiation dose of 20,000 rep was indicated by a slight off-odor, whereas none of the other irradiated samples had an off-odor. After 13 days of storage, all the irradiated samples except that which received a dose of only 20,000 rep were still free of off-odors and there was not indication of spoilage.

30,000 Rep Breaks Trichinosis Cycle

To determine whether or not the flavor of pork is affected by a radiation dosage of 30,000 rep which has been found necessary to break the trichinosis cycle, ground lean loin pork of uniform quality was used. Ground meat has a shorter refrigerator shelf-life than standard meat cuts and generally spoils within a few days. Therefore, ground meat was considered to be the most severe test material for radiation pasteurization.

In a statistical analysis of the first pork-storage experiment; no

significant difference in flavor preference was detected by the panel until the fifth day of storage. at which point the control was definitely inferior to the irradiated food, especially to that given the higher doses. Fresh control samples were substituted for the remaining sittings.

No Significant Change in 8-Day Test

After eight days of storage there appeared to be no significant difference in preference between the fresh control and the pork given the two highest doses, but the 30,000 rep sample appeared to have developed an undesirable flavor. Therefore, based on these data it is concluded that ground pork irradiated at levels between 60,000 and 100,000 rep will keep for at least eight days at 40° F.

Ground beef was used for one series of tests. An attempt was made to prepare a typical hamburger mixture. Round of beef with about 25% fat was obtained from Food Service and passed twice through the grinder. It was divided into five portions for testing, using the same procedure described in the second series of

Commercial Refrigeration

experiments with pork. The irradiation dosages used were 50,000, 80,000, and 110,000 rep.

One day after irradiation the color of the irradiated ground beef samples was still a bright red, whereas the color of the non-irradiated samples had changed to a medium reddish brown. After the second day color changes were noticeable in the irradiated samples. The outer surface of the ground beef given 5 x 10⁴ and 8 x 10⁴ rep became progressively browner through the 14-day storage period. The inner portions remained a medium reddish brown. This was not true of the sample given 1.1 x 10⁵ rep which retained its bright red color through five days of storage.

There are many problems that must yet be solved before it will be possible to pasteurize pre-packaged meat on a commercial basis with gamma radiation, the paper said. In the opinion of the personnel of those at the Michigan laboratory the chief problem to be solved before gamma radiation

may be used by the food industry is the establishment of the wholesomeness of irradiated food.

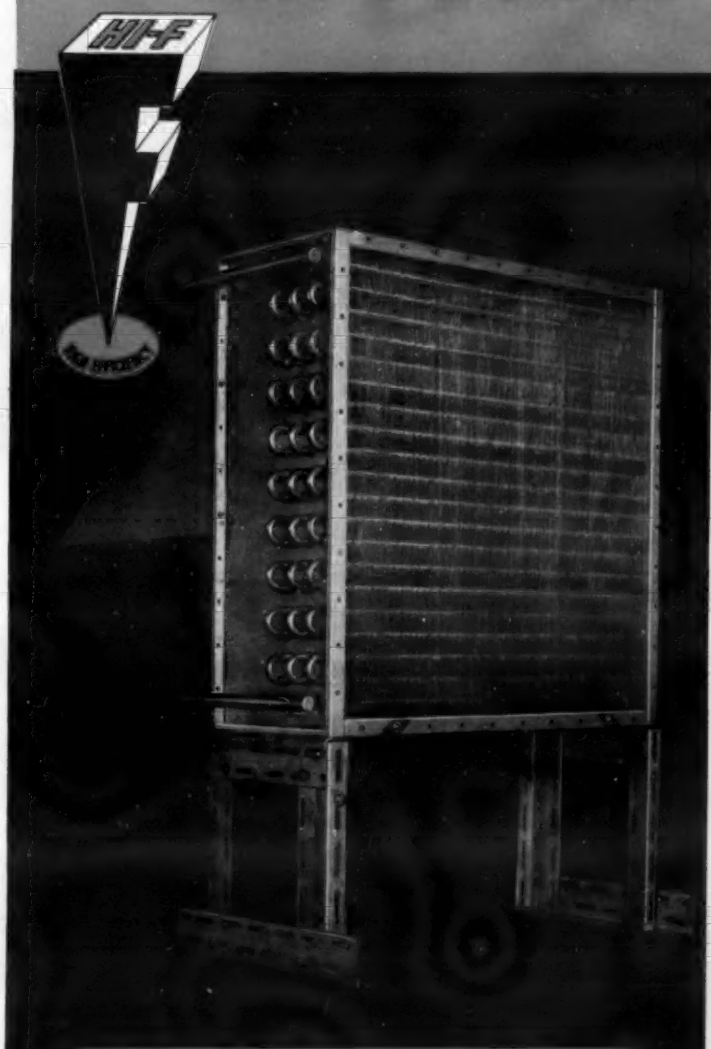
There are sufficient applications of gamma radiation to the food industry in which flavor is not a major problem to support this opinion; e.g., pasteurization of pre-packaged meats, irradiation of grains to prevent insect damage.

No Toxicity to Date

Michigan Memorial Phoenix Project No. 1 has supported pilot animal feeding experiments for about one year and to date all evidence shows the irradiated food should be considered wholesome. However, long term feeding studies with significant numbers of animals must be completed before the wholesomeness (or toxicity) of irradiated food can be established.

Many other problems exist such as color changes which are particularly noticeable on the surface of irradiated raw beef. More taste panel studies are required on different types and cuts of meat including fish and other seafoods.

PEERLESS Hi-F (High Efficiency) AIR COOLED CONDENSER NO-WATER



Hi-F Air Cooled Condenser for mounting in stand on roof or remote outside location—also indoor installations with discharge duct to outside. Low Cost. ELIMINATES USE OF WATER. ¼, 1, 1½, 2, 3, 5, 7½ and 10 ton capacities.

Peerless is a name that dates back to the pioneer days of finned coil manufacture. With this background of experience it is no wonder that to "oldsters" in the industry and "newcomers" as well, the name Peerless stands for integrity.

The Hi-F Air Cooled Condenser is the culmination of years of know-how reflected in a design that assures maximum B.T.U. capacity season after season. In addition, the new and exclusive patent-applied-for Peerless manufacturing process is so efficient and rapid in operation that on time delivery is assured to any contractor even under emergency conditions.

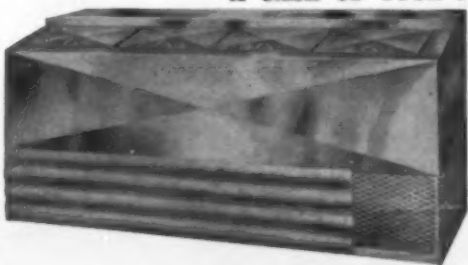
Write for Bulletin No. NW 155 containing full engineering information on the Hi-F Air Cooled Condenser.

MANUFACTURERS, NOTE—Send us blue prints of your evaporator and condenser requirements for a Hi-F quotation. Please indicate delivery requirements.

PEERLESS OF AMERICA, INC.

Dept. N, 8830 N. PULASKI ROAD, CHICAGO 30, ILL., U.S.A.

"A CASE OF COOL JUDGMENT"



**FLO-COLD
DRINKMASTER
STAINLESS STEEL
CUBER—COOLER.**

SOLD THRU DEALERS ONLY
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**United Friguator Engrs.
MENOMINEE, MICH.**

AVAILABLE IN SIZES 4 TO 10 FT.

AUSTIN VILLAGE REPORT [5]

Group's Preliminary Survey Indicates Several Minor Problems That Need To Be Ironed Out Although Occupants Are Generally Satisfied

Editor's Note: This is the second and concluding instalment of the report of Ned Cole, project director of the Air Conditioned Village at Austin, Texas.

A preliminary report by C. W. Nessell on technical aspects of the project appeared in the issues of Feb. 7, 14, and 21.

This report on the problems still to be solved, as revealed in preliminary studies, concludes the five-installment series on the findings, which were presented at the recent Home Builders show in Chicago. The Air Conditioned Village is a joint project of the National Association of Home Builders, National Warm Air Heating and Air-Conditioning Association, and Air-Conditioning and Refrigeration Institute.

"Excessive condensation, causing rust, was noted in many heating elements due to direct contact of the heating element to the cooling coil, to faulty dampers, or to the design of the draft diverter. Equipment manufacturers thus affected are redesigning equipment to eliminate the problem.

"Condensation was noted on ductwork, plenums, and bonnets within 4 ft. of the coil even when located in a conditioned area. Insulation and vapor barrier provided a cure.

"Frequent examples of temperature gain of 10° in duct runs encountered. The usual cause was improperly installed insulation, generally due to too tight wrapping of wire or tape around the insulation to secure it to the pipe. Attic runs were corrected to acceptable limits through proper installation of insulation. In the slab runs were not accessible for correction.

"Since the under slab runs registering excessive loss generally were located near the edge of the slab adjacent to patio or carport slabs, the installation of suitable perimeter insulation would probably have solved the problem," Cole suggested.

Pre-Insulated Ducts

"Since as much as 50% of the efficiency of the cooling equipment can be dissipated by poor duct insulation, the builder should exert special effort to insure a good job. Since attic and crawl spaces are generally tight, it is difficult to correct a job after it is covered up. As previously noted, the committee suggests the use of pre-insulated pipe when available.

"As an example of the effect of duct loss, temperature of air off the coil averages 60° for the units tested. A 10° duct loss produces a register temperature of 70°.

"Since the resulting temperature of the air required to produce com-

fort is approximately 77°, the duct loss means that either twice as much air must be introduced into the area as planned (which would produce drafts) or the resulting temperature would be increased to a figure above the comfort zone," Cole commented.

"The following types of condensers were tested with various units in the village: atmospheric tower, air cooled, forced draft or evaporative.

"Test data will not be available, except as below, until the final report. The following information, however, should be noted," he said.

Maximum water consumption in a 24-hour period:

Atmospheric tower—138 gal. or approx. 3½¢ local rates.

Air cooled—no water.

Forced draft or evaporative—(average) 52 gal. or approx. 2¢ local rates; (high) 70 gal. or approx. 2¢ local rates.

1 Summer Too Short a Time To Find Service Problems

"One summer is too short a time to test service problems; however, the following observations were made:

"1. Air-cooled condensers mounted near the ground became coated rapidly with lint and dust (apparently due to moisture on coil from watering the lawn), while those condensers mounted relatively high in clean, dry locations showed little evidence of coating.

"2. Forced draft or evaporative condensers using fine spray produced a coating on the coil which reduced the efficiency, while units using drops of water either thrown or by gravity apparently tended to clean the coil since no coating was noted," Cole said.

"The following air distribution systems and register locations were used in the village:

"Metal ducts—high inside wall registers.

"Drywall ducts—high inside wall registers.

"Metal ducts—ceiling registers near core of house.

"Metal ducts—ceiling registers in center of room.

"Metal ducts—ceiling registers near outside walls.

"Metal ducts—baseboard registers on outside walls.

"Metal ducts—floor registers near outside walls (spider duct system).

"Fiberboard ducts—baseboard registers on outside walls (perimeter system).

"Details of the results of the individual systems are not available for this preliminary report; however, averages are reported below. While complete information is not available, it is apparent that any air distribution system properly designed and installed will produce good results," Cole commented.

"In measurements taken 24 hours per day in all areas of the house, the temperature (dry bulb) varied from a low of 4° to a high of 15° with an average of 8.7°. The reasons for this variation have not been determined. However, the following general reasons are noted:

"Construction: 'Highs' were pro-

duced by: solid, uninsulated west masonry walls; dark color frame west walls, inadequate insulation, unshaded glass, inadequately ventilated attic.

"'Lows' occurred generally in the bath in early morning with low thermostat setting.

"Air distribution system: Systems which effectively bathe the exterior walls and ceiling with air produce an average to good record in temperature variation regardless of the quality of the construction of the house.

"Systems which fail to bathe the exterior walls and ceiling with air produce average results only when the construction of the house is superior," Cole commented.

How To Maintain Inside

Humidity Between 40 to 60%

"In order to maintain inside humidity between the 40% to 60% limits, the following elements had to be controlled in the house and equipment:

"1. Since the compressor is the only humidity control available, it was found that comfort could be maintained only if the compressor cycled on at least part of each hour of the night. The following

means were tried:

"A. 'Undersizing' the unit.

"B. Use of two compressors, one of which runs constantly, the other when required.

"C. Low setting of thermostat to 'build up' storage capacity during the night for the afternoon demand.

"2. When the compressor cycled, air over the wet coil produces a humidity change as great as 40% within two minutes. To eliminate this problem, one of the following systems was used:

"A. Baffles which divert the air around the coil when the compressor turns off.

"B. By-pass system with compressor and cooling side fan both cycling and heating side fan cutting on between cycles.

"C. Intermittant fan operation (cycling with compressor).

"3. Exhaust fans over range and in bath.

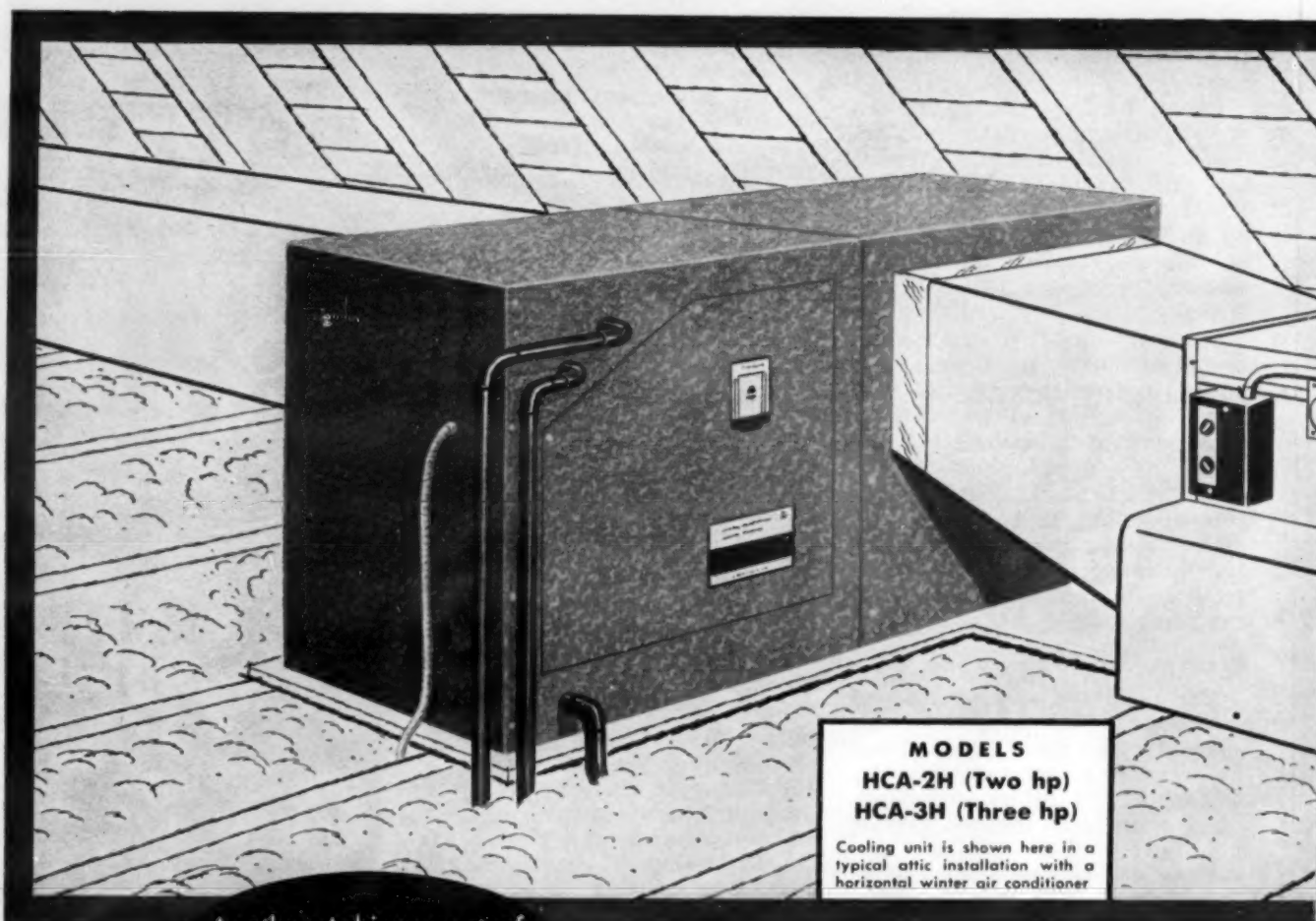
"4. Adequate vapor seal, particularly in crawl space houses.

"5. Cooperative owner who would allow thermostat to operate system.

"The results were as follows:

"1. A & B were both satisfactory. C produced discomfort due to low temperature during night.

(Concluded on next page)



Another Achievement of
AMERICAN-STANDARD
Research

THE
ALL-NEW

SUNBEAM

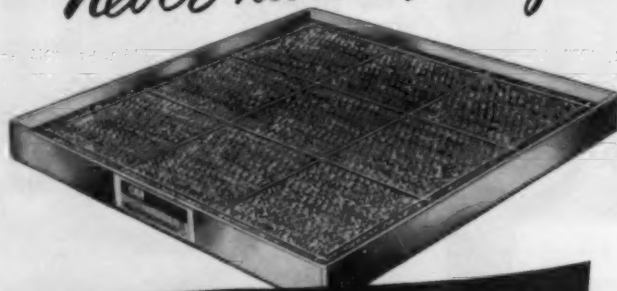
SPACE-SAVING HORIZONTAL
SUMMER AIR CONDITIONING UNIT

- Completely factory assembled and wired unit, shipped in one package, includes refrigerant circuit with water regulating valve, high-low pressure cut-out with manual re-set button, and magnetic compressor starter with 24-volt holding coil, and transformer.
- Compact design; 43½ by 23 by 23 inches.

- Low voltage room thermostat available.
- Jacket is of heavy gauge steel finished in Forge Red.
- Complies with Equipment Standard of Air Conditioning and Refrigeration Institute.
- Five-year warranty on refrigerant circuit.

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... and you, too. For washable, aluminum EZ Klean air filters will reduce your inventory problems and service costs... fit perfectly into any filter service program. And your customers will benefit from the best in efficient air filtration, plus the economy of washable air filters. EZ Kleens retail as low as \$1.33. Wide range of sizes ½", 1" and 2" thickness.



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RESEARCH PRODUCTS CORP.
Dept. 20, Madison, Wis.

Residential Air Conditioning

(Concluded from preceding page)

"2. A & B were both satisfactory. C produced discomfort ('a stuffy feeling')."

"3. Exhaust fans to be effective must be thermostatically controlled."

"4. A more complete outline of vapor seals will be available in final report."

Educational Program For Owners Necessary

"5. An educational program for owners is necessary and if well done is very effective in producing satisfied customers," Cole declared.

"Slab on grade must have an adequate vapor barrier and perimeter insulation, particularly if the edge of the slab joins a patio or carport slab exposed to the sun. Perimeter insulation is more important if ducts are buried in the slab than when other air distribution systems are used due to duct loss."

"Crawl space houses require vapor seal installations on grade to prevent an extra dehumidification load and to control condensation on the floor framing material. Further details on this subject will be included in the final report."

The following subjects will be

included in the report when tabulation and evaluation of the information is completed:

"Wall construction: Details of heat transfer through various combinations of wall materials, effect of exposure of glass, effect of double glazing and of tinted glass, effect of various types of insulation."

"Roof construction: Details of heat transfer as in walls, effect of attic temperature, effect of color of roofing surface, and comparison of cooling load between attic space houses and beam ceiling houses."

"Sun shading: Details of types of available sun shading devices, effect of these devices on cooling load, and development of design standards to aid the builder in designing air conditioned homes."

"Exhaust fans: Effect of kitchen and bath exhaust fans on cooling load, and effect of exhaust fans used to mechanically ventilate the attic space."

"Quality of construction: It has become evident in investigations completed as well as in investigations still under way that the quality of construction has a tremendous effect on the cooling load. A study of the savings of good construction will be included when completed," Cole said.

Harris Heads Engineering At Viking Air Conditioning

CLEVELAND—John E. Harris has been appointed manager of engineering at Viking Air Conditioning Div., The National Radiator Co., it was announced recently by Marion I. Levy, vice president and general manager.

In his new post, Harris is assigned the job of coordinating and directing engineering and research activities as concern Viking's line of furnace blowers, blower packages, furnace humidifiers, and attic and window fans.

Harris is a graduate of Wittenberg college. Before joining Viking, he was plant manager of The National Radiator Co. in Johnstown, Pa., assistant to the vice president of manufacturing at National, and most recently superintendent of National's Plastic Metals Div.

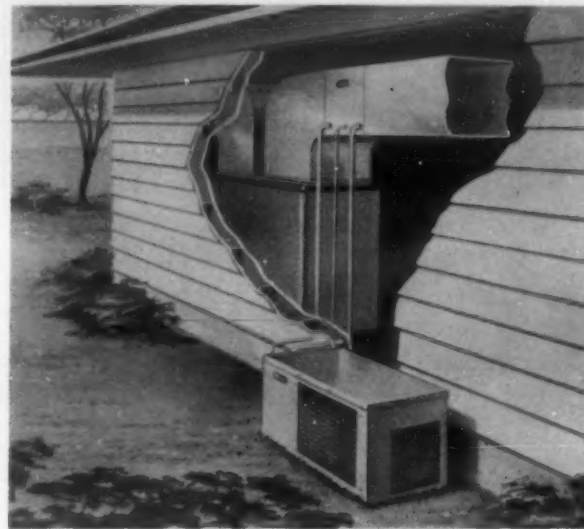
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Distributor Names Carmack

ST. LOUIS—W. J. Carmack has been appointed sales manager and a member of the firm of V. E. Kring Co., distributor of air conditioners, home appliances, etc.



John E. Harris



CUT-AWAY view of home showing typical remote Marvair installation. In foreground, outside, is the weatherproofed, sound-proofed cabinet holding the condenser section with its air coil and 15-in. silent sirroco-type blower fan. High and low lines lead inside to horizontal-flow evaporator located in duct above furnace. Evaporator is also available with blower where furnace fan is not used; or in vertical-flow "A" type for installation below or above any forced-air furnace.

Marvair 2, 3-Ton Residential Systems Have Remote Air-Cooled Condensers

MUNCIE, Ind.—Residential air conditioning units in 2 and 3-ton sizes with remote air-cooled condensers have been announced by the Marvair Div. of Muncie Gear Works here.

The 3-ton unit is claimed to be capable of cooling homes of up to 2,000 sq. ft. and to have a capacity of 40,200 B.t.u./hr. at an outside ambient temperature of 85° F. and inside temperature of 80° d.b. or 67° w.b.

The condenser section of the remote Marvair has a 4-row air coil of 4.33 sq. ft. face area in the 3-ton model and a 3-row coil of 3.75 sq. ft. in the 2-ton model. Compressor assembly is housed in a sound-proofed, weatherproofed, water-proof case. All controls are in water-tight housings.

Air is pulled through the condenser coil with a 15-in. sirroco-type blower fan capable of 4,000 c.f.m. With this capacity, the company said, it is not necessary to run the fan at top speed, thus helping reduce sound.

The evaporator section is obtainable with either horizontal flow or vertical flow (A-type). The horizontal flow evaporator can

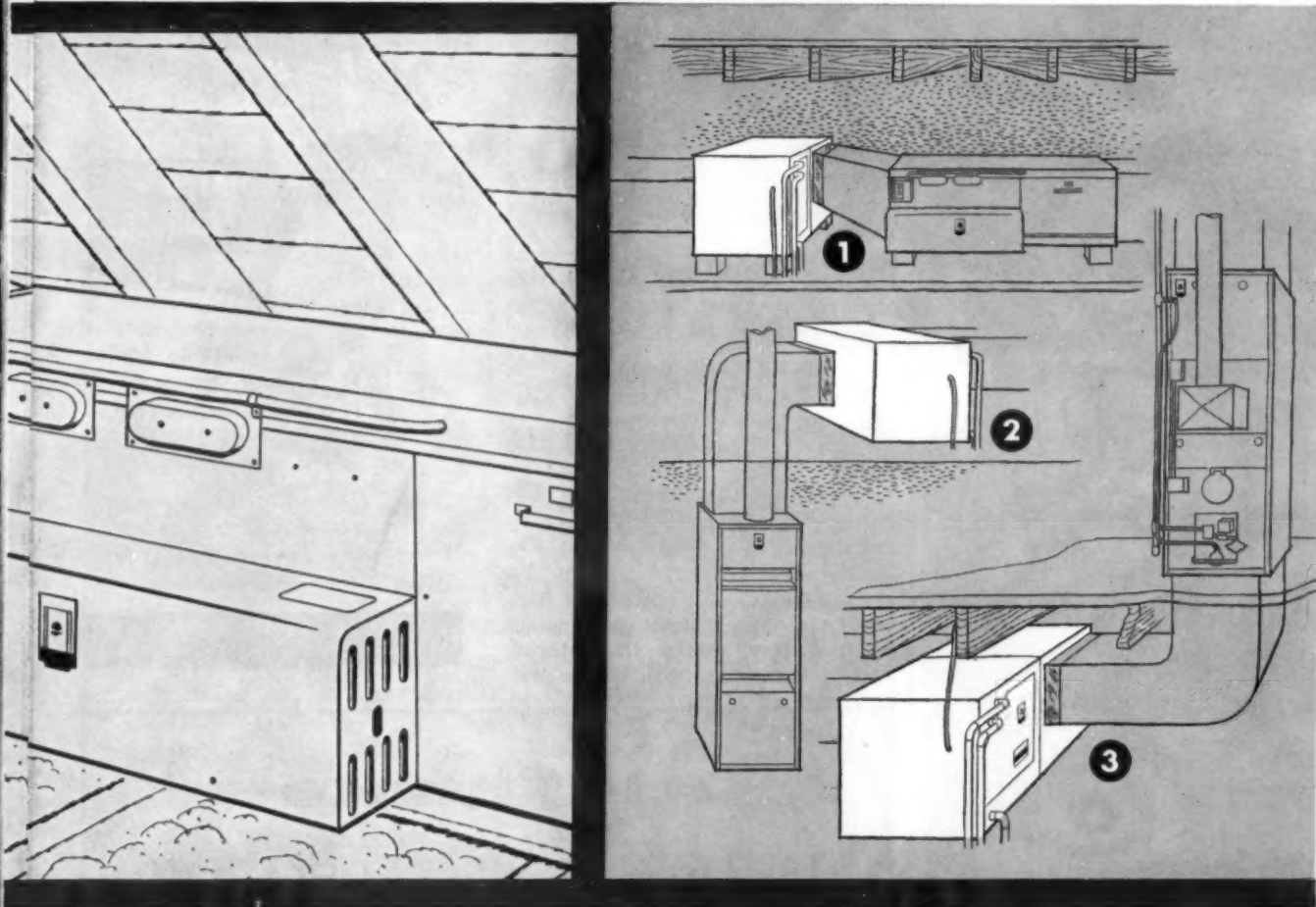
be placed next to the furnace, within existing ductwork, in the attic with its own ductwork to rooms, or through a drop-ceiling arrangement. The vertical flow evaporator can be installed above or below any forced air furnace.

The evaporator has a 4-row coil assembly with 3.36 sq. ft. face area in the 3-ton model and 1.67 sq. ft. face area in the 2-ton unit. This gives sufficient primary surface for proper dehumidification and sufficient secondary surface for the absorption of heat from the air up to the capacity of the compressor, the company declared.

When the furnace fan is not used, the air is moved by a large squirrel cage blower that delivers 1,200 c.f.m. against normal duct-work static.

The two sections are connected by high side 3/8 in. and low side 1/8-in. copper tubing. Condenser section comes charged with a sufficient amount of "Freon-22" for a coupling of 60 ft. of tubing.

Muncie Gear noted that its Marvair line is not restricted to franchised dealerships but is available to any qualified dealer or contractor in the air conditioning field.



Here is another outstanding new addition to Sunbeam's complete line of summer and winter air conditioners. Model HCA-H, available for immediate shipment, in 2 hp or 3 hp capacity, is a complete cooling package with quality-built, hermetically sealed refrigerant circuit. It is made without blower for economical installation in any new or existing modern forced air heating system . . . permits full-comfort, year 'round air conditioning in a wide range of applications where space or duct-work limitations prevent use of conventional equipment.

New air-cooled remote unit also available! Get the facts on Sunbeam's new air cooled, 2 hp or 3 hp remote condensing unit that requires no water whatsoever. Placed outside the building, it's easily connected to an evaporator coil, which can be fitted in the ductwork of any winter air conditioner.

Profit by featuring Sunbeam's complete line—heating . . . cooling . . . air filtering units. For specifications and prices, contact the Sunbeam distributor listed under "Air Conditioning Equipment" or "Furnaces" in your classified telephone directory.

Sunbeam Air Conditioner Division, Elyria, Ohio.

1 Model HCA-H cooling unit located in crawl space with a horizontal winter air conditioner.

2 Model HCA-H installed in attic space in conjunction with a utility type winter air conditioner.

3 Model HCA-H located in crawl space and connected to a counterflow winter air conditioner.

"Special Algae Control helps prevent spots on our merchandise . . . neutralizes bad odors . . . aids in good health"

SPECIAL ALGAE CONTROL neutralizes offensive odors, kills algae, slime and scale in a very short time. Periodic use will keep the system safe, clean and operating at a maximum efficiency.

Since air washers gain water from the air as it is washed, the air is contaminated and it in turn contaminates the water. After the water is contaminated to a certain saturation, it imparts odors and air borne materials back into the atmosphere and this form of contamination causes growths and spots to develop on the merchandise or surfaces where the chilled air is circulated.

When treated with **SPECIAL ALGAE CONTROL** water is sanitized, sterilized, purified and deodorized. This aids in the promotion of good health. **SPECIAL ALGAE**

CONTROL is most valuable when used on air wash water systems and chill water circuits. It can also be used for controlling fungus growth and algae in evaporative condensers, cooling towers, ponds and other water storage systems. When used according to directions it is not toxic.

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AIR CONDITIONER DIVISION

American Radiator & Standard Sanitary Corporation

Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • KEWAWEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

What's New

When requesting further information on new products, please use "Information Center" form.

Marsh Develops 2 Temperature Actuated Valves

—KEY NO. E-310—

SKOKIE, Ill.—Two new temperature actuated valves have been developed by Electromatic Co., sales affiliate of Jas. P. Marsh Corp. here.

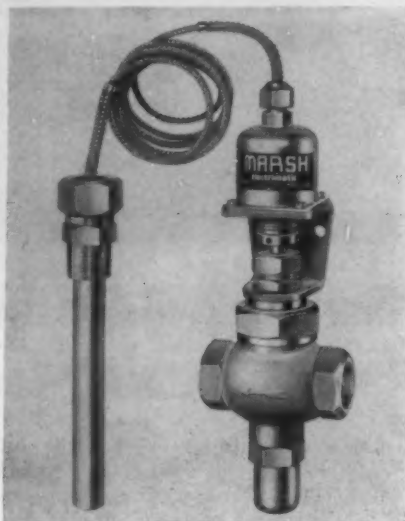
The type WT is designed to control the flow of water, brine, oil, air, gas, or other fluids used in cooling and other industrial processes.

The valve opens with a rise in temperature and closes with a drop in temperature. Available in direct operated sizes of $\frac{3}{8}$ in., $\frac{1}{2}$ in., and $\frac{3}{4}$ in. F.P.T. and in pilot operated sizes of 1, $1\frac{1}{4}$, $1\frac{1}{2}$, 2, $2\frac{1}{2}$, 3, and 4 in.

Standard temperature ranges are 20° to 60° F., 60° to 100° F., 100° to 140° F., 140° to 180° F., 160° to 220° F., and liquid pressure range is to 150 lbs., steam limited to 15 lbs.

The type HT is used to control the flow of hot water or low pressure steam used in heating or other industrial processes. The valve closes with rise in temperature and opens with fall in temperature.

Its main application is in heat-



exchangers and in heating, but may also be used as a by-pass control in cooling and process service within the temperature limits of the valve. Temperature ranges and fluid pressure ranges are the same as in the WT valve.

Connection sizes available in the direct operated type are $\frac{3}{8}$, $\frac{1}{2}$, and $\frac{3}{4}$ F.P.T. and in the pilot operated type 1, $1\frac{1}{4}$, $1\frac{1}{2}$, and 2 in.



Wagner Redesigns Small Single-Phase Motors

—KEY NO. E-311—

ST. LOUIS—A redesigned line of small fractional horsepower, single-phase motors, $\frac{1}{4}$ hp. and smaller, has been announced by Wagner Electric Corp.

"These new capacitor-start and split-phase motors have shallower endplates to materially reduce their length, with ample ventilating openings located below centerline for effective dripproof construction," the company said. "They have no ventilating openings in the frame, which is of heavy rolled steel."

"Sleeve bearing motors in the new design are lubricated by means of felt packing, cut to specified shapes and inserted in specially designed bearing housings with inner and outer seals. This type of construction effectively prevents oil leakage and assures a constant supply of oil to the bearings."

"Quick-break switch and ther-

mal overload protector are securely attached to the terminal board which is mounted inside the stator frame, thus eliminating all internal connections to the endplates."

The motors are available with either sleeve or ball bearings and rigid or resilient bases.

Seal-O-Matic Announces 4-Way Reverse Cycle Valve

—KEY NO. E-312—

CORAL GABLES, Fla.—A new four-way reverse cycle valve that will control any "Freon-12" or



"Freon-22" system up to $\frac{5}{8}$ in. discharge and $\frac{3}{4}$ in. suction lines with no restrictions has been introduced by Seal-O-Matic, Inc. here.

The valve is hermetically sealed and solenoid operated. It features minimum heat transfer and positive pressure seating without by-pass, according to W. E. Green, Jr. of the company.

The valve weighs 2 lbs. 6 oz. and requires no mounting brackets. It is available in 115 and 230 volts. It requires no relays or other accessories except a standard switch, Greene said.

vidual run packages are available for larger jobs. The packages can be shipped from the jobber's warehouse to the dealer's customer, the same as a furnace would be delivered.

Jenkins Pre-Paks are available in four different perimeter units: $4\frac{1}{2}$ -in. and 6-in. individual round pipe systems, and $4\frac{1}{2}$ -in. and 6-in. extended plenum systems, with either floor or sidewall diffusers, it is pointed out.

Kennard Cooling Tower Blends with Shrubbery

—KEY NO. E-314—

ST. LOUIS—Kennard Corp. has announced its QT Water Saver with Fiberglass reinforced plastic cabinet and sump pan.



The fan is driven by a low pumping head water turbine which eliminates outdoor electrical connections. Redwood is used for the wetted deck and all other

parts are corrosion resistant, according to Kennard.

"Its natural green color blends with evergreens and never needs painting or decorating. The vertical air discharge does not disturb shrubs or passing persons."



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Because Carrier Distributors are extra helpful!

Not one of our Carrier Distributors would ever literally "light a fire" under a prospect. But they know plenty of other ways to put the heat on a customer! They're loaded with air conditioning sales savvy! You see...

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just air conditioning! They're the people who know air conditioning best! And Carrier Room Air Conditioners show it...from slim silhouette styling to the weather-armor cabinet...from corrosion-proof coils to the exclusive cooling reservoir!

Want to know more about the Carrier Room Air Conditioner...and what it's like to be a Carrier Dealer?

We've made up a special issue of a magazine that's usually reserved for Carrier Dealers only... "Inside Carrier." It's packed with selling ideas and plans for 1955... plans which you should know about!

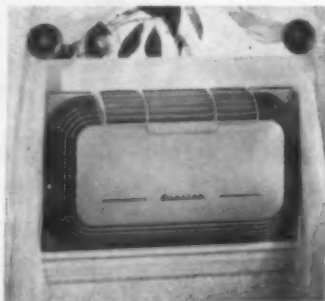
Mail coupon for GIANT "Inside Carrier"!

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- ☐ Carrier Residential Weathermakers ☐ Carrier System Weathermakers

- ☐ Carrier Self-contained Weathermakers ☐ Carrier Ice-makers

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Duct System for 6 Rooms Contained In 1 Carton

—KEY NO. E-313—

WADSWORTH, Ohio—A complete, pre-packaged perimeter duct system for a six-room house can be ordered by specifying one of four Jenkins Pre-Pak units, according to Ralph Mfg. Co., manufacturer of "Pre-Pak."

The new packaged systems include everything needed for a complete six-room installation, including registers, return air material, and plenum chambers. Extra indi-

Filtrine
"Taste-Master"
PURIFIERS
for



WATER -
COOLERS
ICE MAKERS

... rust, dirt
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Stop

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breakdowns
due to rust
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Insures service satisfaction for all coolers, ice-makers! Clear, taste-free water... crystal ice... every day... in all locations.

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Last Chance—

AIR CONDITIONING SPECIFICATIONS

DEADLINE
MARCH
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Act fast — make
sure of your space—
Reserve it today.

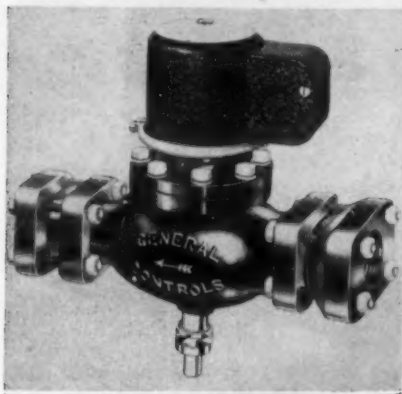
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AIR CONDITIONING & REFRIGERATION News

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521 Fifth Ave., New York 17; 134 S. LaSalle St., Chicago 3;
15515 Detroit Ave., Cleveland 7.

What's New (Con't)



General Controls Valve Features Pilot Action

—KEY NO. E-315—

GLENDALE, Calif. — General Controls Co. is now producing a new flange type magnetic piloted piston valve for high capacity refrigerant control.

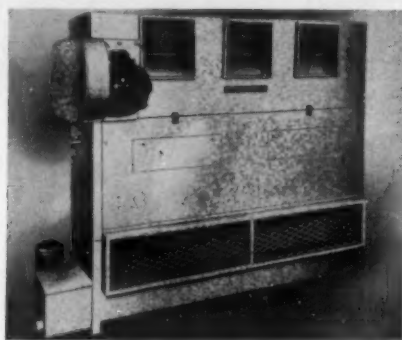
Because of its piloted action, this K-15F series valve is capable of handling large capacities with a minimum pressure drop, thus making it particularly useful for both liquid and suction appliances, the company stated.

The K-15F is made in four basic sizes ranging from 150 p.s.i. to 250 p.s.i.

Flange connections facilitate installation. Companion flanges permit installation in from 1-in. to 2-in. pipe size or welds, and from 1 3/8-in. up to 2 3/8-in. o.d. tube sweat fit.

The main valve is held open electrically. No pressure drop is required to hold the valve open. The valve closes upon current failure, but a manual opening device is incorporated for emergency use.

The K-15F can be used on either liquid or suction lines. It features a moisture resistant Class W coil especially processed to withstand formation of condensation and ice, the company said.



'Flow-Miser' Towers

Use Centrifugal Blowers

—KEY NO. E-316—

JACKSON, Mich. — A new "Flow-Miser" line of cooling towers, with capacities from 15 through 100 tons at 75° wet bulb and a water saving efficiency of up to 97%, has been announced by Acme Industries here.

Throughout the new line, centrifugal blowers are used to induce quiet, constant velocity air flow with ample capacity for use with ductwork, when needed.

The wetted metal deck principle of water-to-air heat transfer is employed, with Acme's Z-design, all-metal cooling pak delivering maximum cooling capacity in a minimum cubic feet of space, the company said.

The sump is located outside the tower. Water treatment basket, removable sediment screen that can be quickly cleaned, and a combination waste-drain-and-overflow fitting are all reached by simply removing the sump cover.

Hot-dip galvanizing after fabrication provides a finish on all sections of these towers, including blowers, that can't be scratched and won't rust under severest operating conditions, the company claims. Other features include large access doors, flush-type and splash-proof air inlets, and integrally-mounted pumps.

Electric Auto-Lite Adds New Temperature Recorder



—KEY NO. E-317—

TOLEDO — A new temperature recorder, model "1000", with a

6-in., clear-reading, evenly-calibrated chart has been added to the line of industrial thermometers manufactured by The Electric Auto-Lite Co., Instrument & Gauge Div.

It is available with 24-hour (one chart revolution daily) or seven-day (one chart revolution weekly) electric or mechanical chart drive. Standard chart ranges between -40° to 550° F.

The recorder features an aluminum die-cast case and is 7 1/8 in. high, 6 5/8 in. wide, and 3 in. deep. It is available with cycle indicator and is priced from \$49.50.



Westinghouse Designs Fans For Industrial Uses

—KEY NO. E-319—

HYDE PARK, Mass. — Cast iron fans for rugged industrial applications are being made available by the Sturtevant Div. of the Westinghouse Electric Corp.

Completely redesigned to provide greater versatility and efficiency, this line of fans will handle wood shavings, chips, granular material, textile fibers, asbestos, rags, powders, dust, and gases.

For specific applications, any of four different wheels or three drive arrangements may be selected. Protective accessories and coatings are available for high temperature and extreme abrasion.

This redesigned 500 series of fans features a wide range of sizes with wheel diameters from 8 1/4 to 34 1/2 in. and inlet pipe sizes from 4 1/2 to 18 in. Air volumes range from 150 to 12,000 c.f.m.

Power, Water Costs Saved by 'Aqua-Fog' Process

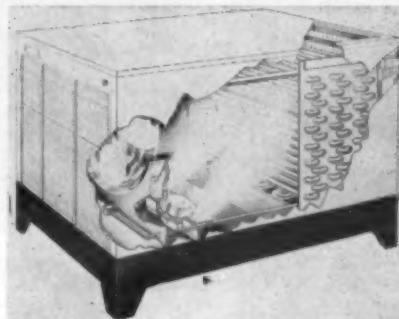
—KEY NO. E-318—

FORT WORTH, Texas — A new, improved evaporative condensing unit is being marketed by Cobell Industries, Inc.

Called "Aqua-Fog," it combines water and forced air in a new process which manufacturers claim obtains a higher degree of heat transfer with savings in power and water costs. The unit eliminates need for an outside water cooling tower.

A "Turbulator" makes possible rapid heat transfer with a small evaporative condenser by replacing conventional spray nozzles, trickle pans, or slotted tubes.

Rapid spinning action of the



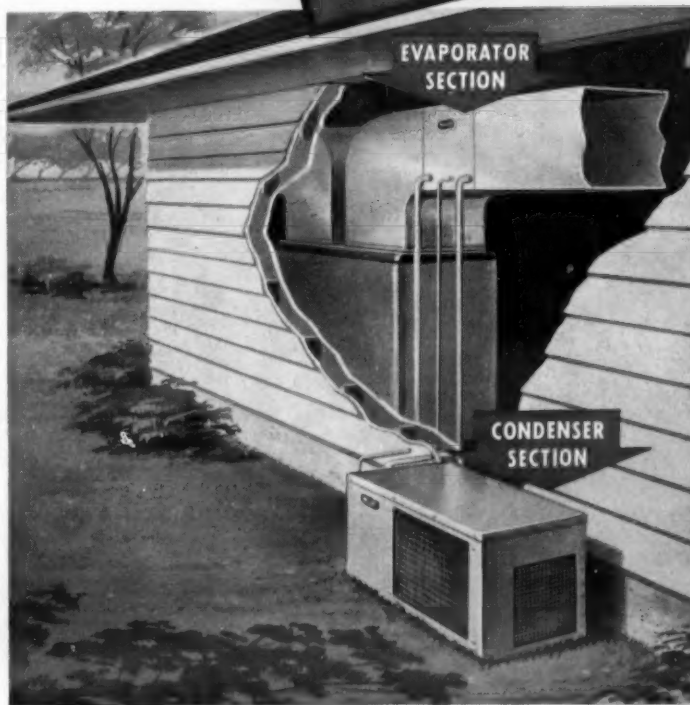
Turbulator's dual wheels lifts the water and breaks it into multiple sprays creating a fine spray or fog and a wash spray to keep coils clean. As the Turbulator breaks the water into a fog, a fan forces air over the condenser coils.

Marvair REMOTE PACKAGED — WATERLESS AIR CONDITIONER

EASY TO INSTALL!

EASY TO SERVICE!

Here's THE Unit for Volume Home Modernization... and Project Installations, too!



You've been waiting for a quality-built air conditioner adapted to the average home and the average income. This new remote waterless MARVAIR is the answer!

In most homes being built today, space is at a premium. With the remote MARVAIR, the weatherproofed condenser section can go outdoors, in garage, basement or attic. This also greatly simplifies air-conditioning an older home.

Adaptable to any forced-air furnace, the evaporator unit may be installed with furnace, added to present furnace, or installed separately with own ductwork.

The remote MARVAIR is supremely quiet, indoors and out, due to sirocco-type fans and soundproof cabinets. Extra large condenser assures excellent performance even up to 126° F. ambient. From every angle, this new MARVAIR is the ideal air conditioner for your home installations.

Marvair Features make Satisfied Customers!

You can recommend the remote MARVAIR with complete confidence. It has the qualities that assure a 100% satisfactory job.

- EASY TO INSTALL! Unit completely wired. Tubing easy to connect. Compact sections take little space.
- QUICK SERVICING! Compressor cabinet designed for easy access.
- MAXIMUM PERFORMANCE! Extra large condenser and evaporator.
- WATERLESS! Air-cooled. No water tower, no water expense.
- QUALITY THROUGHOUT! Precision-built of finest materials, by an outstanding leader in heating and air conditioning.
- LOWEST-COST REMOTE SYSTEM ON THE MARKET!

THE COMPLETE AIR-CONDITIONING LINE!

MARVAIR offers Air-cooled and Water-cooled Air Conditioners to meet every home, store and office need.

The remote unit is available with horizontal-flow evaporator, with or without blower; and vertical-flow "A" type evaporator for installation below or above any warm-air furnace.

Water-cooled MARVAIRS include Vertical type with or without plenum, for single-room cooler or with ducts for homes, stores or suites of offices; horizontal type with ducts, for any updraft or horizontal forced-air furnace.

The only complete line not restricted to franchised dealers. For more volume, more profit, go MARVAIR all the way!

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Vacuum Cooling Lettuce

Heads Can Be Cut, Cooled,
Shipped 300 Miles from
Wisconsin Farm In 24 Hours

BERLIN, Wis.—Vacuum cooling of lettuce—a new development pioneered on the West Coast—has been introduced in the Midwest with the installation of a plant near here.

With the vacuum system 4,000 lbs. of head lettuce can be cooled from 90° to 34° F. in 11 minutes at the new plant on the farm of Harold Gatzke five miles north of Berlin.

The plant is expected to offer this producer a competitive advantage over western growers.

Lettuce can now be cut on the Gatzke farm, cooled, and shipped to markets as far as 300 miles away—all within 24 hours' time. Nearly one-fourth of the nation's population, it is said, can be reached from Wisconsin in that time.

Shorter distances from Berlin to these markets, as compared with the West Coast producers, should give this grower an advantage in lower shipping costs.

Actual cooling of the lettuce takes place in a large vacuum cylinder which was made by Berlin



WISCONSIN GOVERNOR Walter Kohler and Mrs. Kohler inspect heads of lettuce vacuum cooled by Harold Gatzke.



VACUUM TUBE is 8 ft. in diameter and 25 ft. long. Note bottom of tower. Evaporator, condenser, valves are 50 ft. off the ground.

Chapman Co. here, manufacturer of canning, processing, and other equipment. The tube is 28 ft. long by 8 ft. in diameter. It will hold 4,000 lbs. of head lettuce packed in cardboard cartons.

Immediately after cooling, the cartons of lettuce can be loaded

into refrigerated transport trailers for overnight or same-day shipment to metropolitan centers or placed in a large cooling room held at 35° F. by a conventional refrigeration system.

Lettuce cooling system installed for Wisconsin Vacuum Cooling Co.,



as the local operation is known, is the same as that used by Vacuum Cooling Co.'s installations on the West Coast.

Although the system is "revolutionary," actually it employs one of the oldest known principles of heat: cooling by evaporation, explains A. W. Tucker, engineer for the installing firm.

By creating a vacuum inside the tank, atmospheric conditions which prevail at an altitude of 40 miles are duplicated, causing water to evaporate at 32° F.

Steam used to create the vacuum is generated in a 150-hp. oil-fired boiler. Condenser and evaporator are located on top of a 40-ft. tower over the cooling cylinder.

The United States consumes some 250 carloads of lettuce a day, according to Arthur Gatzke of

Robert L. Berner Co., Chicago food firm, and brother to Harold Gatzke, who cites some figures to explain the growing popularity of vacuum cooling.

Freight weight on a case of wet packed lettuce ran 125 lbs., he says, compared to 30 to 35 lbs. for a carton of 24 heads of vacuum cooled, dry packed lettuce.

He also estimates that it costs \$1.15 a case to vacuum cool and ship head lettuce from the West Coast to Chicago in a standard refrigerator car—a trip that takes from six to seven days.

Cost of cooling lettuce at the Berlin plant, Arthur Gatzke figures, is about 15 cents a case, same as at western plants, but the product can be then trucked to Chicago in seven hours at a cost of 25 cents a carton.

Water Chillers Aid Rubber Production

PHILADELPHIA—Water chillers have found still another way to improve on Mother Nature—this time by aiding in the manufacture of certain rubber products.

Quaker Rubber Corp., a division of H. K. Porter Co., Inc., manufacturer of rubber belting, hose, packing, and other rubber products, has installed four Servel DUT 25-ton water chillers to do a job which a nearby river cannot accomplish in warm weather.

The water-chilling equipment has been put in operation five days a week, 24 hours a day, May through October, serving two Banbury mixers, two sheeting mills, and one mixing mill.

Purpose of the proper flow and controlled temperature of the chilled water is to permit uniform compounding, shorten the mixing cycle, reduce "down time," decrease defective compounding, and improve quality by removing heat generated from rolls and mixers.

At other times of the year, river water is low enough in temperature for use in the rubber machinery.

Quaker uses waste steam as fuel to operate the water chillers, and estimates that almost the entire cost of installation will be saved in one season.

The installation was engineered by Quaker plant engineers.

Harry L. Quinn Rejoins Refrigeration Engineering

LOS ANGELES — Harry L. Quinn returned to Refrigeration Engineering, Inc. as eastern division sales manager after an absence of three years, it was announced by H. T. Jarvis, president.

Quinn has 30 years experience in refrigeration, air conditioning, and allied fields, starting with Frigidaire Sales

Bauer To Direct Bally's New Development Dept.

BALLY, Pa.—James Bauer has been appointed director of a newly created development department at the Bally Case & Cooler Co., announced Bally's Chief Engineer George Melcher.

Bauer, a 20-year Bally employe, was formerly head of the company's sheet metal production department.

He had held this position for the past 15 years. As head of the new development department, Bauer will be in complete charge of design and sheet metal fabrication, the announcement indicated.

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SPECIALTY SELLING METHODS



"ARROW WEATHER WAGON" takes air conditioning displays to the people.

'Weather Wagon' Sells Air Conditioning In Midwinter; Theater Tie-In Helps

BROOKLYN—On one of the coldest days of the year, with the temperature hovering near 0° F., some 200 New Yorkers were interested enough in home air conditioning to go through the "Arrow Weather Wagon" parked out in front of a local theater.

And the temperature was 0° F. when the first air conditioner sale was made from the merchandising trailer operated by Arrow Utilities, Brooklyn air conditioning dealer-ship.

This is proof, according to Harold Reiter and Paul Dinowitz, co-owners of the company, that air conditioning is a year-round sales item, and not just a summer product.

The Weather Wagon promotion was created by George W. Shumsky, advertising and sales promotion manager of Arrow Utilities, and Norman King, public relations consultant. Shumsky says that "We at Arrow Utilities believe that the year-round home air conditioning market is a potential source of unlimited sales, but it needs an all-year job of selling."

Arrow Utilities has just one Weather Wagon at the moment, but expects to have six in operation by the first of April. Inside the pilot model are a combination heating and air conditioning unit, an "add-on" residential air conditioning unit, and various photographs of Worthington Corp. and Arrow installations. There are also various samples of different types of wall and ceiling registers on display.

As the visitor enters the trailer, he sees the inside of the air conditioning equipment through plexiglas panels. From two to six salesmen under the direction of manag-

ing engineer Marvin Levy are on hand to answer any questions the visitor may have. As he leaves, a number of free gifts and literature are presented to him.

In addition, the visitor is given a postcard on which he may give his guess as to what the temperature will be at a certain hour of a given day. At the same time information filled out on the card solicits a request for an air conditioning survey, and thus leads are created.

Arrow Utilities has also arranged with the Century Theater chain in Nassau and Queens to have the trailer parked adjacent to different movie houses approximately every 10 days. Inside the movie houses the story of the Weather Wagon is flashed on the screen and the public is invited to visit the display.

Movie theater tickets are given to children for bringing their parents into the trailer. Reiter sees the theater tie-in as being particularly effective when the weather gets warm and people take to air conditioned movies for relief.

One of the most gratifying things about the display, Shumsky says, is the interest shown by the women who have seen it. Their questions, he reports, have ranged all the way from health benefits, to keeping the home dust free, on to the cost of operation. Many were surprised and delighted to find that the cost of an installation of a central-type system could be added on to their mortgage for pennies a day.

Shumsky said that there are plans for talks and films for various groups, such as the P.T.A., and other interested groups.

A. E. Borden Holds Open House; 25 Manufacturers Represented

BOSTON—A. E. Borden, Inc., wholesale distributor, was host to hundreds recently when its new building at 1380 Boylston St. was officially opened and dedicated at a two-day open house.

Representatives from more than 25 manufacturers took part in the event. Exhibits were set up to demonstrate products used in the refrigeration and air conditioning trade and the factory representatives were on hand.

The company was founded by the late Adrian E. Borden in 1923 as a mill supply house. As the firm grew, it added lines and now is a full-line wholesale distributor of air conditioning and refrigeration supplies. The company also wholesales L-P gas and equipment required in that field.

A feature of the new location is ample customer parking space. In addition, there is a new truck dock which will accommodate trailer and pick-up trucks simultaneously.

"New display areas adequately show many items familiar to the trade which previously were sold from bins," it was reported. "A streamlined stock room layout expedites the filling of customer's orders."

"As a service feature, Borden is open Saturday mornings to take

care of customers facing a week-end service problem."

Chester E. Borden, who succeeded Adrian Borden as president, said the move "qualifies this company to keep pace with the industry and meet expanding demand."

Exhibitors attending the open house and displaying products included Acme Industries, Inc.; Alco Valve Co.; American Metal Hose; A-P Controls Corp.; Brunner Mfg. Co.; Bush Mfg. Co.; Chase Brass & Copper Co., Inc.; Detroit Controls Corp.; Dole Refrigerating Co.; Eastman-Atlantic Mfg. Co.; Henry Valve Co.; Imperial Brass Mfg. Co.; Kramer Trenton Co.; Linde Air Products Co.; Marsh Instrument Co.; McIntire Co.; Mueller Brass Co.; Penn Controls, Inc.; Ranco Inc.; Sporlan Valve Co.; Superior Valve & Fittings Co.; Ultrasonic Corp.; United Wire & Supply Corp.; and Virginia Smelting Co.

New Iron Fireman Dealer

RALEIGH, N. C.—Iron Fireman Mfg. Co. of Cleveland has announced the appointment of W. H. Fowler, Raleigh, as Wake county dealer for Iron Fireman automatic heating and air conditioning equipment for residential and light commercial applications.

Drayer-Hanson Appoints Joiner In Dallas Area

LOS ANGELES—Drayer-Hanson, Inc. has announced the appointment of J. W. Joiner Co., Dallas, as exclusive company representative in that area.

Territory includes the northeastern section of Texas. Negotiations were finalized on a direct trip to the Dallas area by Ross Rathbun, Drayer-Hanson sales manager.

Joiner, owner-manager of J. W. Joiner Co., was educated at Trinity university and Texas A & M. He has been associated with the air conditioning industry since entering the business world.

In 1945 he established his own business in Harlingen, Texas, Airco Refrigeration, Inc., where he was dealer and distributor of commercial refrigeration and air conditioning equipment. In 1950 this operation was sold to Warren Refrigeration, Inc., with Joiner remaining as director of sales for all district offices.

Amana Names Distributor In Columbus, Ohio Area

AMANA, Iowa—Birch Distributors, Columbus, Ohio, has been named distributor for Amana freezers and room air conditioners, according to E. L. Hinchliff, sales manager for Amana Refrigeration, Inc.

sell quality for every market



Deluxe units for the discriminating homeowner . . . standard units for the mass "new home" market. "Mr. B" sells 'em all—BRYANT, of course!

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5. Professional sales training
6. Personalized selling tools for you
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8. Co-op "Mr. B" ads for local papers

For bigger profits now, for a secure and prosperous future—see your Bryant Distributor. Ask him about Bryant's big "Mr. B" action program, and how it can make sales and money for you!

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Two-Way Truck Radio System



DISPATCH OFFICE showing use of two-way radio communication to contact trucks and servicemen. Cabinet on right wall is remote control unit for station transmitter. It also contains a loudspeaker.



BASE STATION radio transmitting and receiving equipment. This can be either locally or remotely controlled. It is powered by 110-volt a.c. outlet and connected to the antenna.



MOBILE RADIO transmitter and receiver equipment installed in truck cab. This complete equipment is contained in a case only 15 x 20 x 5 in. It is powered by the truck battery.



TYPICAL INSTALLATION of two-way radio controls in truck or car. Control head—with two knobs—is attached to center of dash. Loudspeaker is at right. Operator is holding palm-type microphone which contains a push-to-talk switch.

Company, Employee, Customer Benefit from Rapid Dispatching, Relaying of Information

MINNEAPOLIS—"It is my belief that within the next few years almost every refrigeration service company will be employing radio for the efficient operation and control of their trucks," predicts Bernard Gest, Chicago district manager of communications equipment for Radio Corp. of America.

Gest discussed and demonstrated such two-way radio operations at the ARI Educational Conference and 17th annual convention of the Refrigeration Service Engineers

Society held here recently.

"This new communication tool has made its appearance among both large and small companies. It proved that it is capable of enabling companies to give better and faster service to customers, while at the same time reducing operating costs.

Benefits Cited

"The following are some of the major benefits from radio:

"1. Your customers get service

in a matter of minutes—goodwill is generated for the service company.

"2. Wasted time is reduced—the average minutes spent per call are cut up to 18%.

"3. Considerable telephone expense is saved.

"4. Productive truck and labor time is increased—15% to 20% more calls daily are possible with radio.

"5. Servicemen do a more efficient job.

"6. Re-routing trucks is easy as the need arises.

"7. Backtracking is made unnecessary. The average miles per call is decreased up to 16%.

"8. The servicemen like it—it prevents pointless driving, and enables them to get help and instructions when necessary.

"9. Radio dispatched service attracts new business.

"Two-way radio means instant and continuous communications between office and vehicles.

"By means of two-way radio, drivers can talk to the office whenever necessary. The dispatcher can contact drivers. Vehicles can be reached whether they are moving or whether they are parked. Cars and trucks can also talk to each other as well as the office if desired.

"The radio is as simple to operate as the telephone, and is usually operated by the same personnel who control telephone dispatching," Gest said.

"It enables the user to maintain more effective control of his fleet and men on the street, to achieve new economies of operation, and to give customers faster service.

How One Firm Used 2-Way Radio System

"The vice president of a metropolitan service company reports the following uses of his two-way radio:

"1. For dispatching service and installation men.

"2. For contacting the service and installation manager on the road so that he can reach problem areas fast.

"3. For handling customer grievances.

"By means of radio, complaints are reported faster. Also we have immediate access to our men and private conversations with them."

"In considering the economies of radio, a prominent corporation gave us the following information:

"After a 60-day test on five

trucks, all other trucks were radio equipped. The radio system now consists of a central station and 25 mobile units.

"Operational results over a six-month period provide the following statistics:

"1. Average service time per call has been cut from 44 minutes to 36 minutes.

"2. Average mileage per call has come down from nearly 3 to 2.5 miles.

"3. Calls per man per day have increased from 7.5 to 9.

"I wish to point out what this increase in the call rate means," Gest continued.

"In a service organization averaging 20 servicemen in the field daily, an increase from 7.5 to 9 means that radio control has given 30 additional calls per day with the same number of men, or the equivalent of four extra men and trucks per day.

"All things considered, the president of this company figured his radio control system cut his paperwork to the bone, and saved him \$5,000 per year after reducing the amortized cost of the radio system.

"Do not get the impression that the foregoing case histories apply to large operators only, for radio has proved equally effective for smaller operators. Here is a case history of a one-man service organization.

"The owner reported that service operations picked up so much last year that he was faced with two possibilities—either add another truck along with another serviceman or put in radio—without one or the other he would not be able to maintain his territory. His territory sprawled across 1,000 square miles and he serviced upwards of 1,400 active accounts with just one truck and serviceman.

"I quote the owner as follows, 'You'd think it was impossible, but it isn't, thanks to our radio. Besides saving us the investment in a new truck and the labor costs of adding a man, the radio saves us about two hours a day on our present setup, which represents about \$5 a day, or more than \$1,000 a year in additional savings.'

2 Other Types of Systems

"I would like to make it clear that the type of radio system I have been speaking about is what we call a private system whereby the user installs his own base station facilities and is licensed by the Federal Communications Commission to operate in the frequencies of the Citizen's Band.

"It is important to differentiate (Concluded on next page)



Did you know that there is a fast, one-step method for the production of tubular-shaped refrigeration parts such as accumulator bulbs, receivers, dehydrators and driers—to name but a few?

Well there is! It's called the Wolverine Spun End Process* and it's a real time and money saver. Instead of starting with a blank of sheet metal and going through numerous mechanical operations, Wolverine starts with a length of tube.

By spinning the tube in special dies the part can be given a wide variety of shapes, reduced, necked, and fully or partially closed at one or both ends—all in one fast, simple operation.

The results are one-piece, leak-proof parts that will meet your closest specifications exactly, cut production time and save you money.

Let's talk tubular shapes—investigate today! Write for your copy of the Wolverine Spun End Book today. WOLVERINE TUBE, 1413 Central Avenue, Detroit 9, Michigan.

*A PATENTED PROCESS RE. 2245

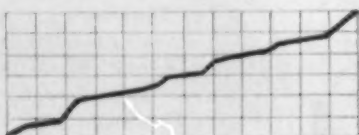
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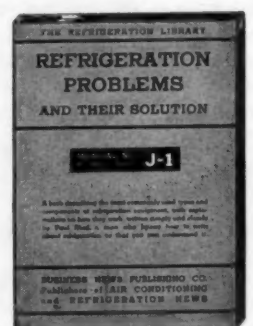
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3-7-55

Two-Way Radio System --

(Concluded from preceding page) this type of operations from two other types of communications services which are offered and which also employ radio equipment. I will briefly point out the major differences between these services so that you will know they exist and can investigate them further if you so desire," Gest said.

"One is known as a 'miscellaneous common carrier,' or MCC. In this type of service you buy or lease the mobile units only, and use a common base station setup to provide base station facilities to all the subscribers for which you pay a monthly fee.

"This type of service has the advantage of not requiring any investment in base station facilities, but has the disadvantage of not enabling you to speak directly to the drivers. Rather you give the message to a mobile operator by telephone and she repeats it to your truck by radio, and vice versa, when the truck wants to get a message to you," he explained.

"The other type of service is also a common carrier type of service and is available in most parts of the country from the telephone companies. This service also uses a common base station for all subscribers but does allow you to talk between the vehicles and the office.

"This service has the advantages

of no investment in base station facilities, but nevertheless, is usually considerably more expensive than a private system, because all equipment must be leased, you can never own it, and you pay toll charges for all calls above a certain fixed number plus telephone line charges if the call is long distance.

"A major disadvantage of this type of service is that in large metropolitan areas that are usually from 100 to 200 subscribers, and since only one call can go over the radio at a time, very often when you wish to use the radio, it is busy.

"I know some of you have tried these services and given them up, and it is for this reason I wish to point out that the private system eliminates the things to which you are objected.

Private System Advantages And Estimated Costs

"In my opinion, the private system offers you the greatest benefits and is the most economical in cost," Gest declared.

"Let me now give you some idea of the costs involved in a private radio system. The costs are divided into two major categories:

"(1) The capital investment, which is the cost of the radio equipment and installation, and

"(2) The operating expense which includes maintenance, insurance, and if required, the rental of the remote control line and the remote antenna location.

"The rates for installation of mobile units are \$25 for installation in a passenger car and \$30 for installation in a truck.

"The maintenance costs for the mobile units will be \$7.50 per month per mobile unit, and from \$18 to \$22 for the base station, if you buy a maintenance contract.

"However, actual dollars and cents figures for radio should be related to the entire operation in order to be realistic.

"One approach is to show the amortization of the radio investment plus the operating costs of radio against costs of a fleet without radio.

"In general, the cost per call for one vehicle without radio runs \$2.86, while the cost per call with radio runs \$2.50. In other words radio produces 36 cents profit per call," Gest said.



Service & Supplies

Table 1—Cost of 2-Way Radio System

Total capital investment	\$ 16,695.00
Amortized cost per month (based on 7 years)	\$198.00
Monthly equipment maintenance	175.00
Remote control line rental and antenna location rental	60.00
Total Monthly Radio Expense	\$ 433.00
Daily radio expense per truck (22 days per month)	\$.97
Savings per truck per day	4.00
Less cost of radio .....	.97
Net Savings Per Day Per Truck	\$ 3.03
Net savings per year on fleet of 20 trucks	\$ 15,996.00
Net savings on 20-truck fleet in seven years	\$111,972.00

(We consider seven years to be the conservative minimum life expectancy of the equipment.)

"The company I cited in my first case history on the basis of this figure arrived at a saving of \$844.99 per truck per year and since they operated 50 trucks, this represented a total yearly savings of \$44,249.50.

"Another approach to the same problem shows that in the final analysis radio doesn't cost anything because it is self-amortizing.

"Let's take a look at a sample installation involving 20 trucks and one base station. (See Table 1).

"The aforementioned costs are all based on outright purchase of a system. We also lease systems to companies who wish to install radio, but want to avoid making the capital expenditure.

"I don't, at this time, intend to go into the details or merits of our lease, except to say that leasing is slightly more expensive. Our lease does incorporate a purchase option which the customer can exercise at any time and get credit for most of what he has paid.

"Or, radio can be bought on conditional sale terms which allows the customer up to three years to pay for his radio installation," he explained.

"In summing up costs it may be pertinent to say that quite frequently operators report that the savings in telephone costs alone are sufficient to pay for the entire cost of the radio system. Hence, the increase in efficiency resulting from the use of radio is pure profit.

Some Things To Consider When Purchasing Radio

"Here are some of the things to bear in mind when considering a two-way system:

"First of all as in the case of making any capital investment, or purchasing a specialized item, seek some nationally advertised product of a well known and reputable manufacturer who has nationwide service facilities.

"The radio manufacturer's own service organization is probably the most competent to install his equipment; however, many cities have independent mobile radio communication service organizations that are competent for handling installation and service.

"In an extremely large operation the refrigeration service company may desire to have its own radio maintenance department and

licensed technician. In this case the manufacturer will assist in setting up adequate standards.

"There is an important fundamental principle which should be observed in considering acquisition of radio. It should be a system, not a series of pieces of equipment acquired at random. It should be a well thought out plan specifically designed for the operation, be it large or small, and one in which

expansion will be neither difficult, nor needlessly expensive, and in which best operating economies will be achieved.

"The antenna location for the base station is an important consideration, since the effective operating range of the system is determined thereby. The higher the antenna, the greater the range of the system. For this reason many systems have the antenna placed on one of the tallest buildings in town or mounted atop a high hill.

"Some users want a party line system so that all trucks, cars, and dispatchers can hear everything that everyone says in order that servicemen can talk to and assist one another.

"Other users want a two-frequency system so that each serviceman can hear only his own calls to the dispatcher, but cannot hear the other drivers' calls.

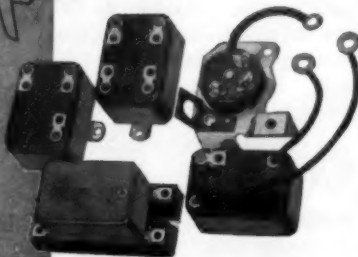
"Some users want a 'Selective Call System' which signals a driver when he is away from the truck by blowing the horn or lighting a light, and only the driver called can hear the dispatcher.

"Assistance is frequently needed in the selection of the frequency.

"In all these instances a manufacturer's representative is usually available for assistance. At RCA we have communications specialists available for assistance in planning of radio systems. This is usually the fastest way to get complete information and involves neither cost nor obligation."

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SERIES RELAYS
Balanced armature—Can be mounted in any position.



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Controls for Electronic, Refrigeration, Industrial, Appliance, Communication and Automotive Industries.

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ASPIR-JET SPRAY NOZZLES RAISE TOWER EFFICIENCY

The swirling, atomizing action of the water as it goes through the Aspir-Jet means more effective heat transfer and higher efficiency from any spray-filled cooling tower. Pressure as low as 1/2 pound gives effective water break-up and distribution. Formed of butyrate plastic. Aspir-Jets will not corrode.



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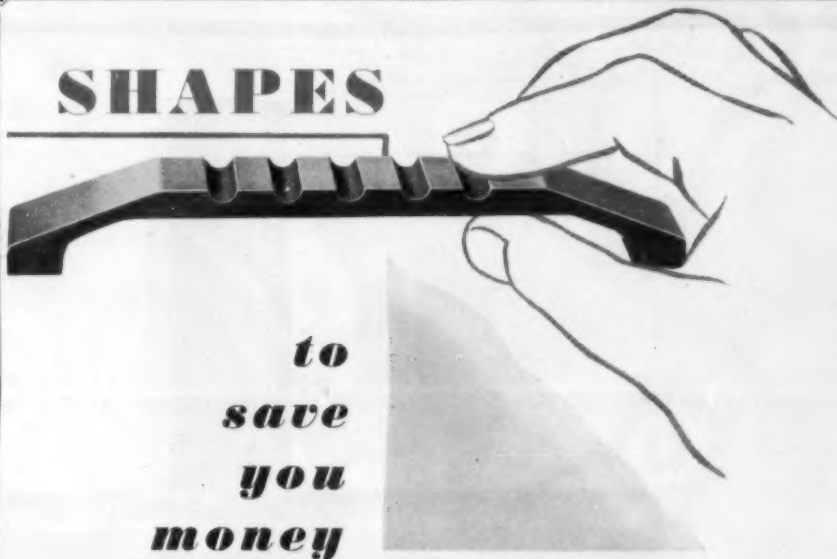


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save
you
money

Here's only one of the many, many extruded aluminum shapes produced by Wolverine Tube. They're designed to save you money and time!

Wolverine extruded shapes reduce machining and assembly operations and cut material requirements to the bone. Because of their infinite design possibilities extruded shapes can be used in countless different ways.

Decorative trim, shelf brackets, threshold sections (like the one illustrated above) and strong, lightweight supports are but a few of the parts economically and quickly made with Wolverine's extrusion facilities.

Alloys available are 1100 (2S), 3003 (3S), and 6063 (63S).

Remember, too, that Wolverine is a top producer of both extruded and drawn aluminum tube.

All the information about Wolverine's aluminum facilities is carried in our new Aluminum Catalog. Send for your copy—today. WOLVERINE TUBE, 1413 Central Avenue, Detroit 9, Michigan.

Mengel Cabinets Come In Colors To Match G-E Appliances

LOUISVILLE, Ky.—New line of wooden kitchen cabinets painted in the same mix-or-match colors as General Electric's major appliances, and designed to be sold in conjunction with them, have been introduced by the Mengel Co., it was reported here recently.

General Electric dealers, as well as regular Mengel dealers, will be offered the new lines, the report said. The cabinets will be available in Mengel's standard or "Royalwood" lines, each containing 90 to 95 models.

The six colors available are turquoise green, canary yellow, wood-tone brown, petal pink, cadet blue, and satin white. Painting will be done to order at the Mengel factories, except for dealers in this area who will be served by a new Mengel subsidiary called Kenmen, Inc.

Gibson Names Distributor

HAZELTON, Pa.—Ceruleo Electric Supply Co. here has been appointed distributor of Gibson products in 10 counties of northeastern Pennsylvania, the Gibson Refrigerator Co. announced recently.

Leonard F. Cerullo, owner and president, will cover the territory with eight salesmen.

HOUSEHOLD REFRIGERATION

Dealers Prefer Pink

Kelvinator 'Color Center' Display Helps Retailers To Avoid Heavy Inventories

DETROIT—Kelvinator dealers are moving rapidly into the colored appliance business, a survey of factory orders reveals.

H. L. Travis, manager of retail distribution, said initial dealer orders have caused Kelvinator management to double its original estimate of the proportion of appliances that will be sold in color this year instead of traditional white.

Kelvinator has announced the availability of five refrigerators, three electric range models, and steel kitchen wall cabinet doors on custom order in eight different colors as well as standard white.

To put the retailer in the colored appliance business without involving heavy inventories, Kelvinator developed a "color center" for floor display, involving a single refrigerator and range pair in color, and an illuminated counter-rack and portable albums for "chips" of steel finished in the actual appliance colors.

"We have found wide apprecia-

tion on the part of dealers for this solution to their inventory problems," Travis said. "This display method has been universally accepted by large dealers and small. Because of its obvious desirability for display purposes, pink has been called for on 80% of the colored appliance orders from domestic U. S. retailers."

Travis said orders from overseas distributors arriving at Kelvinator's export division reflected a variety of national color preferences: Puerto Rico and El Salvador, pink; Lebanon, pink and blue; Belgian Congo, blue; Costa Rica, blue and green; Iran, blue and yellow; and Iraq, fern green and sand beige.

"As yet dealer reactions do not indicate a trend in color preference except for display," he said. "However, strong interest in beige by many dealers, decorators, and kitchen planners indicates that this color will receive wide usage in connection with natural wood and knotty-pine motif kitchens."

NEMA Refrigerator Sales for 1954 Hit 3,323,559 Units

Summary for December and Year, 1954
Complete Electric Household Refrigerators Only—Sales by Sizes—Units

DECEMBER (15 Companies)				
Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft. ....	.....	.....	.....	.....
2. 4 cu. ft.	1,173	.....	7	1,180
3. 5 cu. ft.	15	.....	13	28
4. 6 cu. ft.	1,546	.....	206	1,752
5. 7 cu. ft.	8,916	412	830	10,158
6. 8 cu. ft.	58,475	6	8,500	66,981
7. 9 cu. ft.	30,143	122	2,741	33,006
8. 10 cu. ft.	25,170	439	1,065	26,674
9. 11 cu. ft.	42,222	311	2,575	45,108
10. 12,13 cu. ft. and up..	42,579	401	745	43,725
11. Total	210,239	1,691	16,682	228,612
Refrigerators Having Two Exterior Doors (All Sizes Included In Above)	22,934	238	467	23,639

YEAR, 1954 (15-16 Companies)				
Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft. ....	.....	.....	.....	.....
2. 4 cu. ft.	18,482	1	1,183	19,666
3. 5 cu. ft.	447	26	165	638
4. 6 cu. ft.	37,303	205	11,180	48,688
5. 7 cu. ft.	210,859	7,419	22,353	240,631
6. 8 cu. ft.	733,040	12,688	80,176	825,904
7. 9 cu. ft.	509,091	7,635	41,840	558,566
8. 10 cu. ft.	547,792	17,141	19,823	584,756
9. 11 cu. ft.	513,354	7,469	20,132	540,955
10. 12, 13 cu. ft. and up..	486,309	5,212	12,234	503,755
11. Total	3,056,677	57,796	209,086	3,323,559
Refrigerators Having Two Exterior Doors (All Sizes Included In Above)	364,926	1,932	9,309	376,167

Participating companies: Admiral Corp.; Appliance & Electronics Div., Avco Mfg. Corp. (Crosley & Bendix Divs.); Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., American Motors Corp.; Norge Div., Borg-Warner Corp.; Philco Corp., Appliance Div.; Quicfred, Inc.; Seeger Refrigerator Co.; Servel, Inc.; Westinghouse Electric Corp.; A. J. Lindemann & Hoverson Co. (out 2-1-54).

Refrigerator Sales By Distributors By States

Sales of Electric Household Refrigerators
By Distributors to Dealers—By States

Reports were received from 13 companies

STATES	UNITS
Alabama	40,674
Arizona	16,737
Arkansas	26,930
California	237,781
Colorado	26,135
Connecticut	41,098
Delaware	7,987
District of Columbia	42,847
Florida	92,298
Georgia	57,442
Idaho	6,155
Illinois	162,745
Indiana	83,488
Iowa	37,944
Kansas	26,406
Kentucky	38,978
Louisiana	47,648
Maine	13,405
Maryland	40,535
Massachusetts	76,585
Michigan	132,899
Minnesota	41,839
Mississippi	26,449
Missouri	90,997
Montana	8,176
Nebraska	24,166
Nevada	5,779
New Hampshire	7,448
New Jersey	96,531
New Mexico	8,602
New York	344,446
North Carolina	54,382
North Dakota	8,752
Ohio	158,799
Oklahoma	37,617
Oregon	20,784
Pennsylvania	166,414
Rhode Island	20,729
South Carolina	25,812
South Dakota	9,659
Tennessee	57,090
Texas	140,071
Utah	10,229
Vermont	3,671
Virginia	45,460
Washington	33,292
West Virginia	28,472
Wisconsin	47,862
Wyoming	3,576
Total United States	2,783,821

Participating companies: Admiral Corp.; Appliance & Electronics Div., Avco Corp. (Crosley & Bendix Divs.); Deepfreeze Appliance Div., Motor Products Corp.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div., American Motors Corp.; Norge Div., Borg-Warner Corp.; Philco Corp., Appliance Div.; Servel, Inc.; Westinghouse Electric Corp.

Admiral Names Gorman

CHICAGO — Appointment of Richard F. Gorman as assistant sales promotion manager of Admiral Corp. was announced recently by Edmond I. Eger, vice president-advertising.

National Food Foundation Accepts FTC Restrictions

WASHINGTON, D. C.—The Federal Trade Commission announced recently that National Food Foundation, Inc., Hartford, Conn., has agreed not to represent that people joining the National Food Foundation Discount Club receive a freezer without cost.

A stipulation agreement with the FTC entered into by this firm and the National Food Foundation of Springfield, Inc., Springfield, Mass., discloses that the companies sell home freezers and a freezer-food plan, all food being furnished by independent outlets.

In the course of their business, the FTC said, the companies make such statements as: "Food at wholesale prices direct from our packing plant"; "... buy all your food at discount prices"; "How to save up to \$300 each year on food —yet... Eat Better! Live Better!"

Under the other terms of the agreement, the companies will not represent:

That the food can be purchased under the plan at wholesale prices or at prices consistently below prices for such food in regular retail outlets.

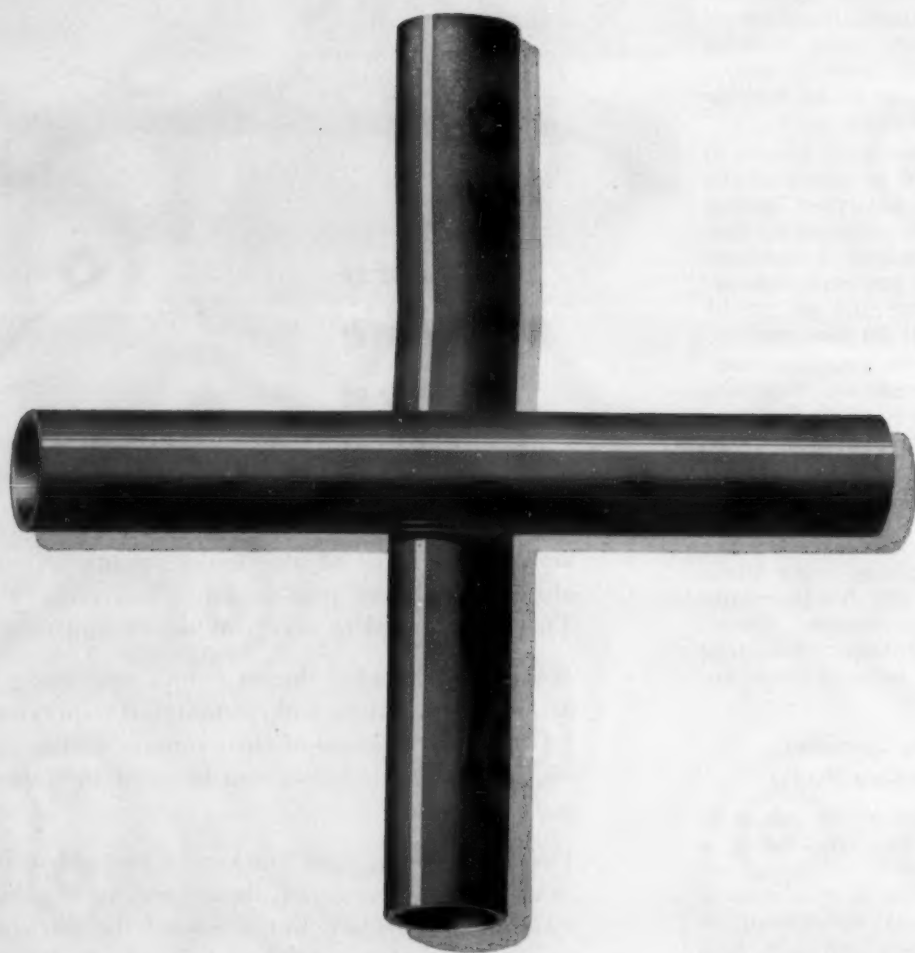
That the freezer can be paid for from savings in food costs or that the purchase of the freezer entails no additional expense over and above the former outlay for food alone.

That \$300 a year or any other specific amount can be saved in food costs under the plan.

Through the use of the name "National Food Foundation" or by other means, that the business is other than a commercial enterprise operating for profit.

Benjamin B. Cooper, Albert A. Aaron, Sidney Martin, and Jerome M. Good, officers of the companies, are also parties to the agreement.

Said the FTC: "Approval of the stipulation conforms to the commission's policy of encouraging law observance through cooperation in certain types of cases where there has been no intent to defraud or mislead."



The Big Plus in Tubing

Remember

GM STEEL TUBING

By Rochester Products

The MIAMI STORY:

Down in Miami where glamor is king, even the little fellows have to do things in a big way. Here is a story of the kind of refrigeration and air conditioning market that is being developed in places where the northern distributor would think in terms of one or two pieces of equipment.

This is another in the series of articles written by Assistant Editor George M. Hanning on what it is like to do business in the air conditioning and refrigeration field in fascinating Miami.

By George M. Hanning

MIAMI BEACH, Fla.—Benjamin Deutch could well be the biggest little customer for refrigeration equipment in Miami Beach.

Deutch operates the new Sea View Food Market on Sunny Isles Blvd. which has the spacious width of 16½ ft. Walk 65 ft. back from the front door and you are out the rear exit.

But in that small space—and practically all in a row, Deutch has 47½ ft. of refrigerated display cases, an 8 by 10-ft. walk-in meat cooler, a 5-ton packaged air conditioner, and a 1-ton room air conditioner. An air-cooled condenser and four refrigeration compressors are mounted on the roof. There is no basement.

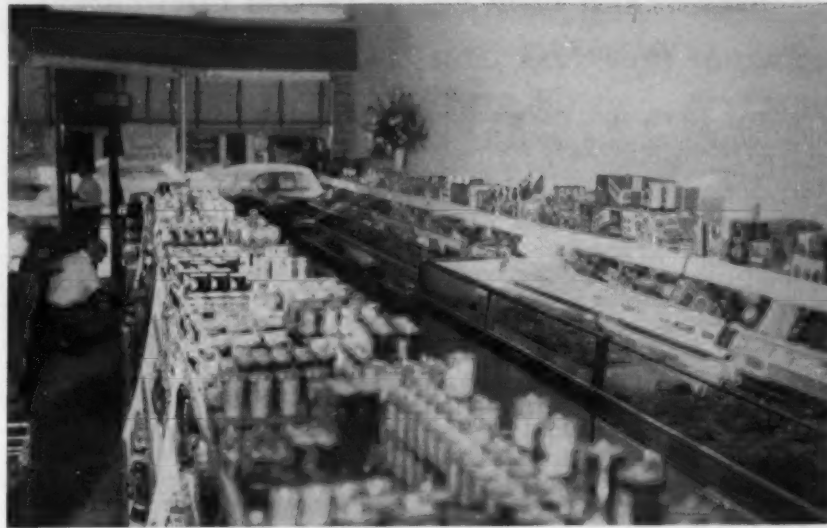
Deutch purchased his equipment from Dudley Cawthon, Inc.,

Miami distributor for Hill equipment. Cawthon installed along one wall a 7-ft. model M-420VR produce case, a 10-ft. model 420 D dairy case, an 11-ft. model 356Z frozen food case, an 8½-ft. 656F delicatessen case, and an 11-ft. meat case, all open type self-service equipment. All have storage units below the display shelves for bulk storage—the only place Deutch has to keep his merchandise.

The 8 by 10-ft. walk-in meat cooler was built to fit the only space available behind the sales area. Inside the walk-in, Cawthon installed a Globe chopper, Biro saw, and Globe slicer. Aside from the walk-in, there is only a passageway to the rear door.

At the rear of the sales area,

Even Small Stores Provide Big Market For Refrigeration and Air Conditioning Where Climate Is Warm, Glamor Is King



ONE GLANCE takes in the entire shopping area of the Sea View Food Market in Miami Beach, Fla. The store is only 16½ ft. wide by 65 ft. long, but it is packed with refrigeration and air conditioning equipment.

just in front of the walk-in cooler, stands the 5-ton Brunner packaged unit, discharging its cool air toward the front of the store. At the front, mounted in the transom over the entrance is the 1-ton Philco unit. It is intended, according to Cawthon, to help reduce the window heat load and to give customers a sharper cooling effect when they walk into the store. It is also intended to cool the window produce displays.

On the roof are a Kramer Unicon air-cooled condenser serving three 2-hp. and one 1-hp. Hill sealed units that provide refrigeration for the packaged air conditioner, the walk-in, and the display cases.

Aside from the row of refrigerated fixtures and the window displays, the store is equipped only with 40-ft. long center island of Bulman shelving and, on the wall opposite the refrigerated fixtures, a McClintock panel rack.

A lighted canopy tops the center island.

Not only is the new refrigerated equipment essential to preserve foodstuffs in the Florida heat, but it also gives the store a modern, up-to-date appearance in keeping with the rapidly growing motel area nearby, it was pointed out.

Tressler & Associates Expands, Fitzgerald Named Vice Pres.

WESTPORT, Conn.—Gerald A. Fitzgerald, formerly food industry advisor to the government of Iran, has joined Donald K. Tressler & Associates as vice president and general manager, according to Donald K. Tressler, president.

The firm has announced its plans to expand its consultation, research, and management engineering services to food manufacturers. Services to the frozen food industry have also been added.

To Cool Buffalo Store Annex

BUFFALO — Air conditioning will be installed in a 37,500-sq. ft. addition to be erected at the Sheridan Plaza branch store of Adam, Meldrum & Anderson Co.

Handy Tube Bender

Smoothly bends any pipe or tubing 3/8" to 1 1/8" O.D.



Just a twist of the wrist assures perfect, even, right-angle, U and offset bends. Save enough on ONE job to pay for your HANDY BENDER.

See your supply house—or write for free folder today.

HOLSCLAW BROS., INC.
428 N. WILLOW RD.—EVANSVILLE, INDIANA

United Sound Names 2 Vice Presidents

COLUMBIA, Pa.—Two new vice presidents were named recently by the board of directors of United Sound & Signal Co., Inc., manufacturer of vending and refrigeration equipment.

Guy McLaughlin, the company's chief engineer, was elected engineering vice president and William W. Kane, who had been serving as sales manager, was elected sales vice president. Both men were also elected to the board of directors.

At the same time, R. E. Parks was named special assistant to the president.

Charles R. Wisler, United's manufacturing vice president, will continue in his present position.

Kool Aire Products Moves To Larger Scranton Quarters

SCRANTON, Pa.—Kool Aire Products announced recently that it has moved to larger and more convenient quarters at 826 Capouse Ave.

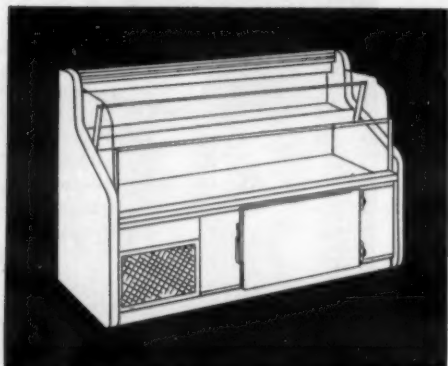
The firm is engaged in sales and service of air conditioning, commercial refrigeration, and electric and gas heating. It is a distributor-contractor with its own service and installation department. The company, which handles the Curtis line, specializes in custom-designed air conditioning.

Are you losing sales?

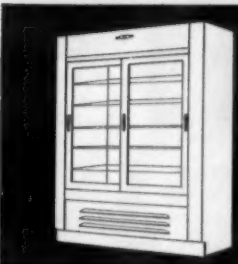
complete your line...increase your profits...

with these
"special" models

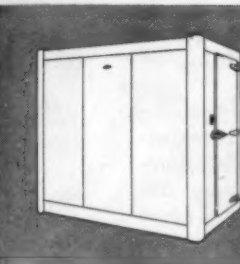
If your present line lacks these items...if you need equipment for a "better" job...or custom-built units, call on SCHMIDT. Excellent quality, reasonably priced. Let us send you complete literature and details.



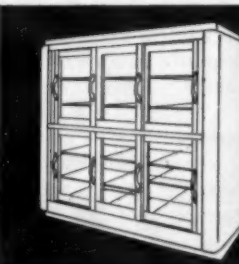
6 Ft. Self-Contained Case...for dairy products, meats and vegetables. 18 square feet of refrigerated display and 13 cubic feet of storage. Ready to plug in, excellent refrigeration. You can sell one of these a week!



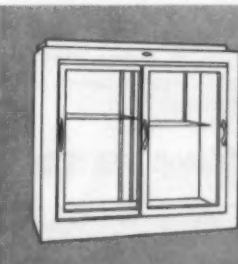
Self-Contained Sliding Door...excellent for baked goods, lunch rooms and small stores. Only 25" deep; stainless steel front. Large capacity.



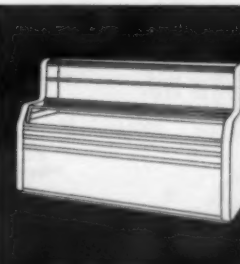
Walk-In Refrigerator...sectional construction, 7'-8" high with full head room. Exclusive "Filter-Flo" coil prevents mixed odors, eliminates cold blasts, maintains high humidity.



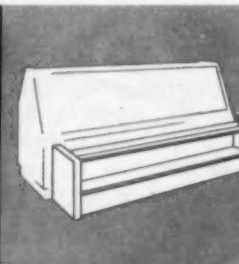
Sliding Door...increase the sale of and profit from bottled drinks. All around refrigerator for small store, variety of sizes. Extra large coils for fast cooling.



Floral Case...display and combination display-storage models, finished in colors or stainless steel. Exclusive refrigeration features protect flowers.



Frozen Food Cases...large capacity, beautiful design. Automatic defrost.



Self-Service Utility Case...good for the small store, will increase sales of meats, dairy products; can be double-decked for vegetables.

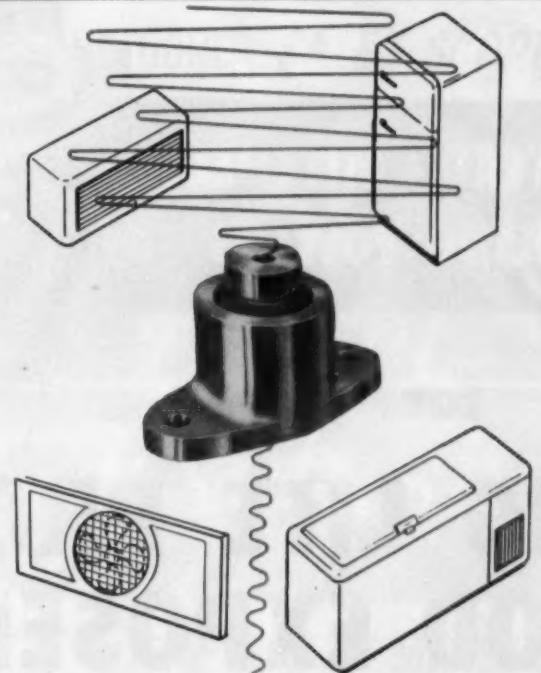
COMPLETE LINE of conventional self service cases and storage freezers. WRITE FOR DETAILS.

THE C. SCHMIDT COMPANY

1712 JOHN STREET CINCINNATI 14, OHIO



85th Anniversary



Best way to put
the freeze on

VIBRATION

Silentbloc units will squelch most of the vibration and chatter which plagues refrigeration and air conditioning equipment today. These unique mounts and bushings will withstand vibration, shock and pounding stresses with practically no fatigue limit.

The first step in freeing your equipment from vibration is to write to The General Tire & Rubber Company, Industrial Products Division, Department B, Wabash, Indiana. Ask for Catalog #4240.

"From Plans to Products in Plastics and Rubber"

These are General Tire Industrial Products now serving industry

Silentbloc vibration and shock mountings • Silentbloc bushings • Silentbloc bearings • Oil & hydraulic seals • Bonded to metal rubber parts • Hydraulic brake parts • Metal stampings • Extruded & molded rubber • Extruded plastic • Polyester glass laminates • Sponge rubber • Glass run channel • Vibrex® fasteners

THE
GENERAL
TIRE

Industrial Products Division
WABASH, INDIANA

Leasing Equipment

It's Not Advisable Except In Case of Some Large Supermarket Chains Which Have Big Capital Sums Which They Prefer To Use Elsewhere, Believes H. W. Foedisch of Provident Trust Co., Philadelphia

NEW YORK CITY—Some advantages and disadvantages of leasing capital equipment and ways of financing lease transactions were outlined by Herbert W. Foedisch of the Provident Trust Co., Philadelphia, at the recent convention of the National Commercial Refrigerator Sales Association here.

What advantages does a lease offer to a strong company that can well afford to purchase?

"First, and to my mind, most important," Foedisch declared, "is the release of capital for more productive investments."

"A lease allows a company to acquire production machinery, or labor-saving equipment, without a substantial outlay of cash, thus freeing funds for other uses."

Two Types of Potential Lessee

"Under the heading of preservation of capital, there would be two types of potential lessee:

"1. The company which has more profitable uses for capital funds which will be freed. Obviously, the dollars involved would have to be

relatively large and represent a substantial outlay, or otherwise it would not be very practical to worry about the further use of them.

"Companies under this category would be those expanding rapidly and companies with a large seasonal business—such as the food and tobacco companies."

"2. Of course, all companies which are in need of capital to modernize their business, or the like, should be prospective lessees."

"There is a great deal said today on the double profits produced by the leasing of capital goods. To illustrate this, let us say that a company needs \$100,000 of equipment in order to modernize its plant, thereby lowering production costs."

"It could purchase the equipment, reducing working capital, or borrow the money from a bank. By taking the funds out of working capital, dollars are sacrificed which would ordinarily turn over three or four times or more during a year, producing a profit each time around. If the funds are obtained

at a bank, repayment must be made out of earnings after taxes."

"However, if the equipment is rented, the initial outlay is only the first year's rental or less, and is completely deductible for income tax purposes. If it was a five-year lease, after the first year there would still be \$80,000 of either capital funds or bank credit for other uses."

"During the course of the first year and to a lesser degree in the remaining years, the company would be in a position to make a profit from the cost savings provided by the new equipment and also profit would be received from the investment of the funds thus freed."

Objections to Leasing

"This kind of thinking makes sense to many managements, but there are others who point up the following objections:

"In the first place, it is always more expensive to lease than to buy, taken as a whole without regard to possible tax savings."

"In addition, many companies

Commercial Refrigeration

have the necessary funds to purchase and do not at the time have good investment opportunities for those funds or cannot turn them over in the normal course of business. Obviously, such a company has no business renting anything to preserve capital."

"Another reason often given for leasing is that it offers a tax advantage to the lessee."

"Any sophisticated analysis will show that tax money is not saved, but payment merely postponed until later years by the concentration of rent payments in the earlier years."

"During the period of excess profits tax, it was a good gamble that taxes would ultimately become lower and therefore real savings could possibly be obtained or, to put it another way, most of the equipment could be paid for with government money. Although taxes are still high, their future status is anybody's guess."

"Of course, a certain amount of capital is preserved by the postponement of tax payments through renting, which would to some extent allow more ready cash for immediate investment on the theory that the present dollar has more value than the future dollar."

Tax Argument Viewed As Weak One

"I think, however, the tax argument is a weak one because if there were any real savings involved and should leasing become an accepted method of financing, the Bureau of Internal Revenue would soon close the loophole."

"Another advantage of leasing is as a safeguard against obsolescence. A relatively short-term lease of four or five years does offer increased flexibility."

"At the expiration of the initial rental period, there is no problem of disposal of the equipment in order to purchase improved models and there is no possibility of capital loss. An option to continue to rent at reduced payments or to substitute the old equipment for new under the lease plan, or to purchase new equipment gives the lessee a wide choice."

"Another advantage given for leasing is that it may reduce accounting overhead. No depreciation records need be carried and in fact very little bookkeeping of any sort is necessary as the rental payments are purely a monthly or quarterly expense."

"I know that in some of the large companies there are accounting records in the operating, purchasing, and perhaps even the treasurer's division for each piece of equipment owned. A lot of those records could be dispensed with if the equipment was rented."

Means of Budget Control

"Some companies consider the lease a means of strengthening budget control by delegating authority to those at the operating level."

"Since the operating personnel must charge their lease payments against their operations as a cost item and must budget for these payments, an additional incentive is provided to be selective in such purchases in order to maintain a good profit margin to show top management."

"By the same token, purchasing agents with dollar limitations on their capital expenditures can get around such limitations by leasing."

"It seems to me that there are three major disadvantages to the lease as a type of financing."

"In the first place, in general, the lease costs more because a certain amount of accounting and other responsibilities, such as finance charges, are transferred to the lessor."

"In addition, the lessee gives up any opportunity to participate in an increase in value of the used equipment."

"Thirdly, and probably the most important factor, is the desire for ownership inherent in the average businessman of today. Pride of ownership is traditional in America and colors the thinking of many people."

"I think, from the long term point of view, that with the exception of substituting for conditional sales, there are limitations on the

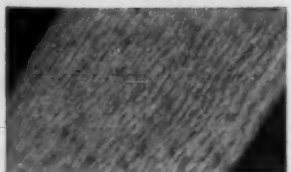
(Concluded on next page)

HALSTEAD & MITCHELL COOLING TOWERS

for

LONG LIFE PROTECTION of WOOD EXPOSED TO WATER

TAKE ROUGH-CUT WOOD for wetted deck surfaces



... because rough-cut wood "wets" more effectively ... presents more evaporating surface ... than any other suitable material. The wetter the evaporating deck of a cooling tower, the more efficiently and economically it operates. Wetted deck surfaces of all H&M Cooling Towers, commercial or residential, are rough-cut wood.



... because the most permanent and positive wood preservative known is creosote. Koppers Pressure-Creosoting results in 100% penetration ... and thus protection of the constantly wetted wood against attack by fungus and marine parasites ... and ... protection against chemical deterioration from acids in water.

THEN KOPPERS PRESSURE-CREOSOTE



HERE'S WHY ONLY HALSTEAD & MITCHELL OFFERS THE 20-Year Guarantee!

on the wetted deck surface against rotting or fungus attack

Creosote contains 162 elements toxic to fungus growth and parasites ... protection which is simply not matched by any other substance.

Creosote is highly insoluble in water ... making possible the extraordinary long life of the Halstead & Mitchell Guarantee on the wetted deck surface against rotting or fungus attack.

Creosote is proven by over 100 years of use. The exceeding long life of marine piling offers ample evidence of the protection afforded. Only creosote-protected wood can offer such a unique service life record.

2 thru 120 Tons

REMEMBER! ONLY H & M PROVIDES

SHEET STEEL CABINETS with 3 hydraulic protections
STAINLESS STEEL FANS - WEATHER SHIELDING
EVERDUR BOLTS for ease of disassembly after years of use



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5 Models

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REACH-IN CABINETS
51 Models
20 to 90 Cu. Ft.

DRY BEVERAGE COOLERS
7 Models
Remote & Self-contained

Since its organization more than 50 years ago, the Puffer-Hubbard Manufacturing Company has been dedicated to but a single purpose—to build the finest quality commercial refrigerators it is possible to build. How well they have succeeded can best be measured by the fact that year after year more and more hotels, restaurants, food stores, bakeries, schools and institutions of every type are turning to the Puffer-Hubbard line. Owners everywhere will tell you, "In the long run it costs less to own the very best!" Regardless of what your refrigeration needs may be, it will be well worth your time to investigate the many advanced and exclusive features that make the Puffer-Hubbard line first choice in the commercial refrigeration field.

Lifetime FEATURES

- * Lifetime Porcelain or Stainless Steel Finish
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GRAND HAVEN, MICHIGAN
EXPORT OFFICE — Puffer-Hubbard International, 440 Lafayette St., New York City.
Cable "Monrefsup"

Leasing Equipment--

(Continued from preceding page) potential business volume which leasing can produce.

"The company which is interested in leasing must have other good uses for its capital or for one reason or another be in need of capital at the present time or foresee a need in the somewhat near future.

"The attraction to a manufacturer or merchandiser in acting as a lessor for his products rather than as vendor is, of course, the opportunity provided to increase his volume of business.

"Incidentally, today the lease is sometimes used as a substitute for selling on the theory that if they can get the equipment into the shop, an ultimate sale will result. Also, many sales have been made which started originally as negotiations for leasing transactions.

"Another incentive to a manufacturer in offering a leasing plan to his customers is as a means of increasing his income.

"If the company has finances adequate to hold such leases in its own account, income which would ordinarily go to the financial institutions would accrue to the company.

"Of course, this applies to any type of customer-financing, but in leasing there is also the chance that the equipment will have a residual value at the expiration of the lease.

"I know of one company today which has leased equipment for some time and now has built up an inventory of used equipment which is rented on either a day or weekly basis. This equipment has already been written off and paid for once so anything received is additional profit.

Leasing Equipment Can Offer Mfr. Problems

"There are, however, some very real problems in a manufacturing concern acting as lessor. Since it must hold title to the equipment, any tax advantage accruing to the

lessee will be a disadvantage to the lessor if he follows the usual accounting procedures.

"His credit problems are greatly increased, as, whereas in the normal course of business he extends credit for approximately 30 days, he now must satisfy himself that the lessee will be able to make payments for three or five years in the future.

"There are also some unanswered questions as to what would happen in the event of bankruptcy of the lessee. Although theoretically the equipment belongs to the lessor, in many states this type of paper cannot be properly recorded and the outcome of any such situation would be highly unpredictable.

"It has always been our practice, and we recommend to anyone going into the field, that he should not look to the equipment as the basis for security, but to the financial strength of the lessee.

Servicing Problem

"There is also the problem of servicing the equipment, for in most cases responsibility of a lessor goes beyond the normal sales warranty and continues to exist throughout the full period of the lease.

"Of course, this service responsibility can be an advantage where a service contract is normal practice, if the contract can become part of the leased document. Obviously, anyone considering offering a lease plan to his customer should consult with a competent attorney.

"At the present time, there is no real pattern as to what should be contained in a lease agreement. They all seem to be different and many have options to purchase.

"We feel that any option to purchase, other than for the fair market value of the equipment, transforms the document into a conditional sale.

"Manufacturing or merchandising companies can create a lot of illwill with their customers by advising them that the rent payments

are deductible for tax purposes only to have the customer finally socked by the Bureau of Internal Revenue with the re-opening of his books and a 6% interest charge.

3 Sources of Financing

"There are three sources for financing lease transactions. Finance companies are at the present time aggressively seeking this type of business. They purchase the equipment outright from the manufacturer and lease it to the user. Of course, the finance company is taking all the risk and the rate will reflect just that.

"Several leasing companies have been formed in recent years which purchase equipment at the specification of the lessee and then enter into a long-term lease with him for that equipment. Because of their specialization, some are in a position to offer a better rate than the finance companies.

"Some manufacturers use these leasing companies as a medium for getting the product in the hands of those customers which want to lease. In other words, they use the leasing company in lieu of a leasing plan of their own and offer the leasing company's plan through their entire sales organization.

"You can also finance your leases through your local bank. Your rate will be determined by your own credit, as well as that of the lessee. If your company is strong and the credit of the lessee good, you should be able to make an arrangement with your own bank,

allowing you to make the lessee a very attractive offer. However, since your bank cannot take title, you must remain title holder.

"The advantage of using a third party, such as a finance or leasing company, is that you are out of the transaction for good. Of course, by so doing you raise the cost to your customer or sacrifice some profits to yourself and either you or your customer lose any value remaining in the equipment at the expiration of the lease.

"In summary, I think that that every organization should examine its product to see if it lends itself to a leasing program. If your average customer is a good credit, if your product has fairly high value attached to it and its life is not too long or too short, and if one company can use a number of units, you might be successful in aggressively pushing a lease plan.

"If your product does not fit such requirements, it might not be wise to merchandise the plan but you certainly should know enough about leasing so that you can meet competition when and if it becomes necessary.

Future of Leasing

"Now referring back to the reasons why the term lease developed may give us some basis for predicting the future of this method financing. The picture has changed.

"Companies are allowed under the new tax law to depreciate at a more rapid rate and recapture more of their investment during

the early years of the life of the equipment. Interest in fleet leasing developed during a period when all or practically all of industry was investing heavily in capital equipment.

"It is possible that in the next five or 10 years such investments will decline and also many companies will be generating more cash because of the increased depreciation, etc., than in the past. Therefore, term leasing may become more and more selective in its use by the strong company.

"On the other hand, if the philosophy becomes prevalent in our business world that ownership sacrifices future dollars for present use then we may see the lease as one of our basic methods of transacting business.

"I know a treasurer of a large company who says he can earn 10 to 20% before taxes on any capital he puts into a manufacturing plant. Why, he says, should he use such funds for non-productive equipment, such as desks, chairs, typewriters, etc., if he can lease at a charge of less than 10%.

"Now I have not said much about lease plans for the consumer—the doctor, dentist, lawyer—because they tend to compete with a conditional sale or instalment purchase which provide better security and protection to the seller. However, it is possible that professional people in particular would be interested in renting. I would think that many of your customers might consider leasing."

WATCH THE G-E PACKAGED AIR CONDITIONER SALES SCOREBOARD!

G-E Dealers Score *First...Stay First!*

with **6** Product Exclusives

Unique advantages speed sales... assure customer satisfaction

Talk about "saleability"! General Electric Packaged Air Conditioners not only have the features buyers want most—they also are backed with the greatest expression of manufacturer confidence in the industry—an unmatched warranty! Just look over these profit-building sales points—they're another reason why G-E Dealers are gaining in sales at a faster rate than the entire industry.

- 1 Modern streamlined design.** A cabinet as handsome as it is durable. Distinctive styling actually enhances any decorative scheme. Smooth-hammered, two-tone silver gray finish.
- 2 All-in-one hermetic cooling system.** Entire refrigeration system is a single sealed unit on a sturdy frame that slides out easily. Saves users many dollars in maintenance time!
- 3 Unmatched warranty.** You can offer prospects unmatched investment protection! Only G-E provides five-year warranty that includes replacement cycle, freight paid both ways and generous labor allowance!
- 4 Muggy weather control.** A G-E extra that keeps indoor climate pleasant no matter how humid it gets outdoors. Takes excess moisture out of the air without overchilling!
- 5 Directional air flow.** Air gently circulated in any direction user prefers. Completely adjustable.
- 6 Complete line—3 to 15 tons.** A capacity to handle the requirements of any installation. Compact G-E units fit almost anywhere!

TRIPLE PLAY MAKES RECORD!

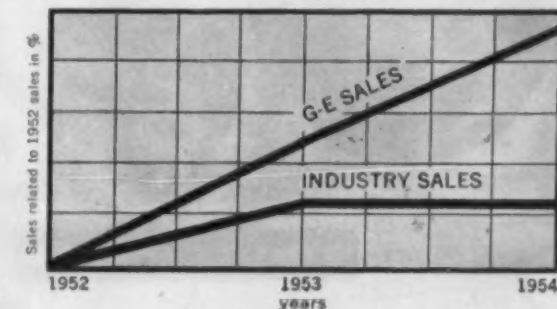
Teamwork between G.E., its distributors and its dealers is making an amazing sales growth record! The chart below shows you how dynamic this record is. One reason for it: unparalleled G-E product saleability!

... and here are more reasons why:

G-E Finance Plans: Five big finance plans for both prospects and dealers! Easy terms keep your capital free... make easier sales... keep profits high!

G-E Advertising: Year-round campaigns in leading national magazines! Strong local advertising! Hard-hitting direct mail! Special promotions of every sort!

G-E Multiple Sales: G-E dealers get large installations! All installations are handled by franchised distribution.



Get on the winning team now!

For full information call your nearest G-E Distributor or write: C. J. Rigby, General Electric Co., Commercial and Industrial Air Conditioning Dept., 5 Lawrence St., Bloomfield, New Jersey.

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Packaged AIR CONDITIONERS

New Arrival in Marsh "Serviceman" Family

An Instrument You Need

The MARSH Serviceman TIMER

IT SHOWS:
Total running time
Total elapsed time
on 24-hour dial

This great addition to the "Serviceman" line does a vital job supremely well. Its white hairline pointer shows total time of test; red pointer shows total running time. It is easier to read, use, and interpret than a recorder... has no charts or leaky pens to bother with... yet it is very moderately priced.

Two models (opposite) cover all conditions. Note sturdy case finished in attractive hammerloft gray with sharp white numerals on black dial... also suction-cup feet for firm placement without damage to finish. This is the instrument you've been waiting for. Write for details, or

See your Wholesaler

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Sales affiliate of Jas. P. Marsh Corporation
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MARSH

Refrigeration Instruments

GAUGES • WATER REGULATING VALVES • SOLENOID VALVES • HEATING SPECIALTIES



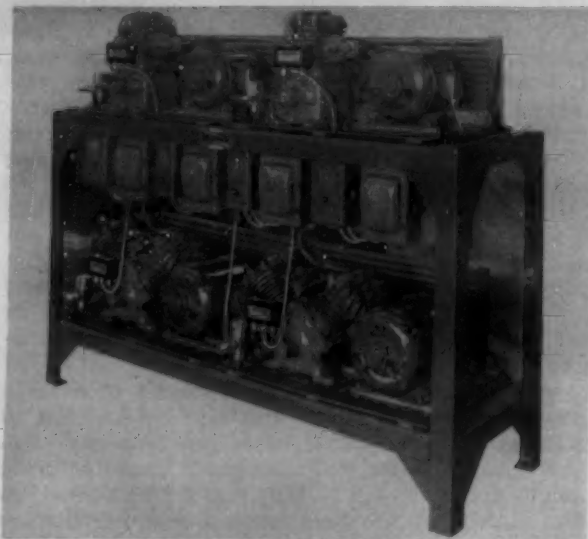
115 VOLT,
60 CYCLE MODEL

For testing smaller units with compressors of 3/4 hp. or less. Operates in series... Simply plug equipment into timer; timer into wall outlet.

230 VOLT,
60 CYCLE MODEL

For testing larger installations regardless of horsepower. Operates in parallel. Note well shielded alligator clips for attaching to motor terminals and power lines.

Service & Supplies



THIS CONDENSING UNIT RACK has been designed by Brunner Mfg. Co., Utica, N. Y., to house up to four refrigeration condensing units where space is an important factor. It is particularly suited for such large refrigeration users as supermarkets.

'Space-Saver' Holds 4 Condensing Units

UTICA, N. Y.—A condensing unit rack, designed to accommodate up to four Brunner open-type refrigeration condensing units in any combination of sizes up to 5 hp., has been introduced by the Brunner Mfg. Co.

Called the "Space-Saver," it was designed primarily for space economy and quick, easy servicing. The rack of 4-in. cross-channel

construction can be completely serviced from the front, permitting stacking on both sides.

Its improved control system permits either individual or gang cut-off, according to the manufacturer.

The rack is completely wired and is said to require minimum on-job wiring or plumbing installation work.

Buckeye State RSES To Meet March 25-27

TOLEDO—Ninth annual convention of the Buckeye State Association of the Refrigeration Service Engineers Society will be staged at the Commodore Perry hotel here on March 25 to 27.

Features of the convention will include a tour of one of Toledo's industries on Friday afternoon, and a service clinic on the Frigidaire ice maker, Linde air products, and Copelametic compressors on Saturday. A banquet Saturday night and business meeting Sunday morning will wind up the affair.

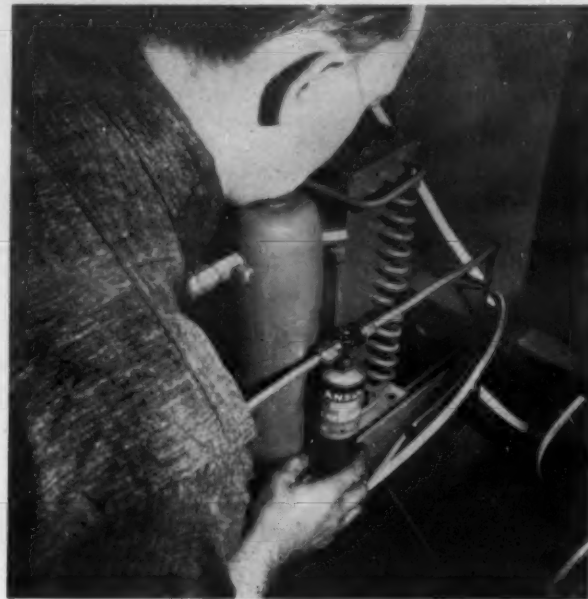
The auxiliary has a complete social program outlined for visiting ladies.

Advance registration for the convention is \$1.

General Controls Moves Its Southeastern Office

GLENDAL, Calif.—In order to insure more effective servicing of the southeastern United States, General Controls Co. has moved its regional sales office and warehouse from Birmingham, Ala., to Atlanta, according to J. F. Ray, vice president in charge of sales.

Address of the new facility is 1479 Spring St., N.W., Atlanta. George Deyo is the regional manager in charge of the Atlanta headquarters.



THE INDICATOR FITTING of the new Ansul "Dry-Eye System" can be mounted in an easily readable position, as shown in this photograph. By merely glancing at the leakproof window on top of the unit, the serviceman or layman can quickly determine the approximate moisture content of the refrigerant without shutting down the system. The window contains an element which changes color, depending on the moisture content of the refrigerant. By spotting moisture trouble early, it will be possible to avoid serious refrigeration breakdowns later.

Ansul 'Dry-Eye System' Designed To Find and Remove Moisture

MARINETTE, Wis.—Accomplishing the dual job of indicating when moisture is present in a refrigeration system and then removing it is the function of the Ansul "Dry-Eye System" for moisture control, which will soon be introduced to the field.

Now for the first time, states Ansul, it will be possible for refrigeration maintenance men or owners to see and analyze at a glance the approximate moisture content of the refrigerant without shutting down the system.

The leak-proof window of the unit contains a special indicating element which changes color depending on the moisture content of the refrigerant. When the window shows blue, the refrigeration equipment is dry. If it's pink, then moisture is present.

The new device, say Ansul officials, has far-reaching implications for the entire industry because acid and sludge—the two most frequent causes of refrigeration system breakdown—invariably result from the presence of moisture. By spotting moisture trouble in its earliest stages it will be possible to avoid serious difficulties later.

To correct these troublesome conditions, the T-Flo Dry-Eye cartridge cleans the system by removing moisture—or, if acid and sludge have already formed when the cartridge is installed, it will remove these elements, too. When the cartridge has done its job, it can be removed without breaking the refrigerant line, and a new cartridge screwed onto the indicator fitting.

The indicator fitting, which can be mounted in an easily readable position, will tell the service engineer when a drying job is complete. At the same time, owners of refrigeration equipment, who may be laymen, will be able to spot moisture trouble early and call the

service engineer before serious difficulties develop.

The cartridge is available in sizes of 8, 12, 20, and 30 cu. in. The indicator fitting is available in 1/4-in., 3/8-in., and 1/2-in. flare sizes. The cartridge and indicator are sold as one unit, in any combinations of the above sizes. All cartridges are interchangeable on all fittings.

List prices to the service trade for the entire system range from \$7.60 for the 8-cu. in. size to \$10.85 for the 30-cu. in. size.

The product will be available through Ansul wholesalers throughout the country April 1, 1955.

American Emblem Names Catlin General Sales Mgr.

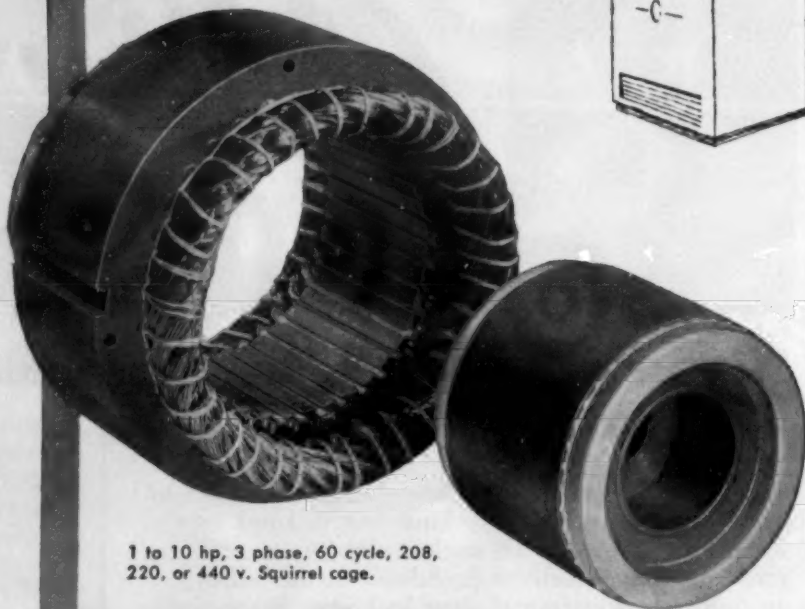
NEW HARTFORD, N. Y.—American Emblem Co.'s appointment of Leslie D. Catlin as general sales manager has been announced by Earle Congelton, president. Catlin was formerly associated with a Philadelphia consulting engineering firm.

Wagner
ELECTRIC MOTORS
...the choice of leaders
in industry

specify
Wagner
HERMETIC
MOTORS...
to provide the best
in sealed-unit
performance

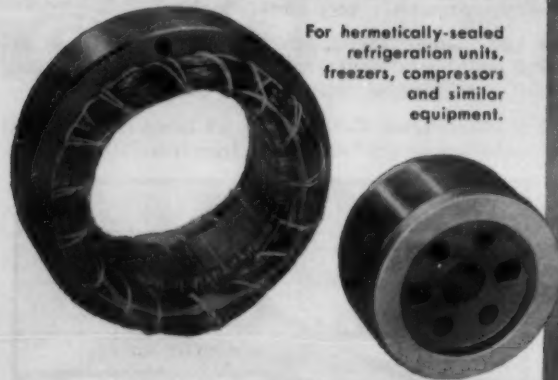
POLYPHASE

For sealed refrigeration units, air conditioners, commercial refrigeration and similar applications.



1 to 10 hp, 3 phase, 60 cycle, 208, 220, or 440 v. Squirrel cage.

For hermetically-sealed refrigeration units, freezers, compressors and similar equipment.



SINGLE-PHASE

1/4 to 5 hp, 60 cycle, 115 or 230 v. Split Phase, Capacitor-start induction run, Capacitor-start and run.



When you design or build a hermetically-sealed air-conditioning refrigeration condensing unit—choose your motor drive with care. You can't afford to take chances. Remember it's *your product* that gets the blame if the motor fails.

Wagner hermetic motors, like Wagner general-purpose motors, are known for their ability to give years of trouble-free service. Refrigeration manufacturers who use Wagner hermetics know that each motor will meet their rigid requirements for quality, uniformity and dependability.

That's because every Wagner hermetic motor is precision-built and carefully tested. They are backed by more than sixty years of motor building experience.

When your motor drives are to be hermetically sealed, it's to your advantage to specify *Wagner* for use on your equipment. Get the facts... call the nearest of our 32 branch offices, or write us.

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ELECTRIC MOTORS
TRANSFORMERS
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AIR AND HYDRAULIC

BRANCHES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES

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Harry Alter's New DEPENDABOOK

No. 162
1955

OVER 10,000 ITEMS
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Save Money On
**REFRIGERATION
PARTS and Supplies**

...Also Electric Motors
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134 Lafayette Street, New York 13, N. Y.
122 Parkhouse Street, Dallas 7, Texas

WHOLESALE
ONLY

Grocers' Purchases --

(Concluded from Page 1, Col. 4) more nearly completed."

Other findings of the study were that 7,500 members will build new stores this year and that 12,000 will remodel present stores.

"The stores' NARGUS members are planning to build or remodel in 1955 will be bigger and with more frills than ever before," the *Bulletin* said, "hence they will entail larger financial outlays. They are spending three to four times as much to build a store today as in 1945."

The public is demanding better facilities, NARGUS members declared in telling of their plans for public rest rooms, parcel pickup stations, and the extension of covered promenades into parking lots to protect shoppers from inclement weather.

The accuracy and reliability of this survey is attested, the *Bulletin* claims, by a checkup made on the fifth annual study.

"Last year," the publication said, "7.9% of the members replying to the survey said they would build a new store during 1954 and 8% actually did; 54% said they would buy new equipment, costing \$9,350 each, in 1954, and 56% did buy new equipment, spending \$13,000 each."

Charleston, W. Va. Dealers Form Local Organization

CHARLESTON, W. Va.—Appliance and television dealers in the Greater Charleston area met recently to form the United Appliance & Television Dealers Association.

At its initial meeting, 21 local dealers were in attendance, at which time the group adopted a code of ethics.

The following officers were elected: James Woolford, president; A. R. Dilley, secretary; John McClung, treasurer; and Rank Sigmon, C. T. Patrick, directors.

Regular meetings are set for the fourth Tuesday of each month.

Carrier, Affiliated Gas Stockholders Approve Merger --

(Concluded from Page 1, Col. 4)

conditioning requirement regardless of size or type, we will continue aggressively all activities related to so-called big air conditioning, both industrial and commercial."

Combined sales of the two corporations now merged were over \$200 million in 1954. Total assets are \$130 million. The plants contain 3¼ million sq. ft. of floor space. Employment is approximately 10,000.

Wampler pointed out that for many years the products of Affiliated Gas Equipment have been marketed under the well-known trade names of Bryant, Day & Night, and Payne.

These will be continued through three operating divisions which will be under the direction of Lyle C. Harvey, former president of AGE, who will be designated senior vice president of Carrier with headquarters in Syracuse, N. Y.

The principal Bryant, Day & Night, and Payne products are central home furnaces, water heaters, boilers, floor and wall furnaces, and unit heaters. In recent years AGE has been to some extent in the air conditioning business and this will be expanded in each of the three operating divisions.

The Carrier line of products will be broadened to include winter air conditioning units and certain other heating devices.

As a result of the merger Carrier will have three additional plants in strategic locations—Indianapolis; Tyler, Texas; and Monrovia, Calif.

The Bryant Div. of Carrier will be headed by Ronald N. Campbell, vice president, with Howard L. Cleary, vice president, in charge of sales. The Day & Night and Payne divisions will continue under the general management of William J. Bailey, vice president.

Lyle C. Harvey, who was president of AGE, will become a director of Carrier, as will also Francis H. Beam, senior vice president of

the National City Bank of Cleveland, and William A. McAfee, senior partner of the law firm of McAfee, Grossman, Taplin, Hanning, Newcomer & Hazlett of Cleveland. The new board members were former directors of AGE.

Harvey is one of the leading

Carrier Profits Show Rise, Report \$150 Million Sales

SYRACUSE, N. Y.—Net profit of Carrier Corp. for the 12 months ended Jan. 31, 1955, was \$7,182,406 or \$4.90 per common share, compared with \$6,614,494 or \$4.43 per share in the preceding similar period.

During the 12-month period completed sales totaled \$149,986,339 and new orders were booked in the amount of \$144,519,298. The comparable figures for the 12 months ended Jan. 31, 1954 were \$163,943,304 and \$167,376,595, respectively.

On Jan. 31, 1955, the backlog of unfilled orders, exclusive of major government contracts, amounted to \$39,814,793 as compared with \$45,281,834 a year earlier.

Under major government contracts the corporation has orders on hand in the amount of approximately \$20 million. The corresponding figure as of Jan. 31, 1954 was \$64 million.

figures of the home heating industry. For many years he was president of Bryant Heater Co. which became a part of AGE. Prior to 1949 the companies that were joined to form AGE were affiliated with Dresser Industries, Inc.

At each special stockholders' meeting, this basis for the exchange of shares was approved. The holder of each share of AGE common will receive one-tenth of a share of a new issue of Carrier 4½% preferred stock, par value \$50, and two-elevenths of a share of Carrier common.

The holder of each share of AGE \$3 preferred will receive one share of Carrier \$3 preferred, which is also a new issue with a par value of \$50.

At the regular annual meeting of Carrier stockholders, the following actions were taken: Voting power was granted to the preferred stockholders; the Incentive Stock Option Plan was amended so that key employees of AGE may participate; the authorized issue of preferred stock was increased from 800,000 to 1,000,000 shares, of which 158,316 will be issued in connection with the merger of the firms.

In addition, all directors of Carrier were re-elected with the exception of Max McGraw, president of McGraw Electric Co., who had reached the retirement age for board members.

FTC Defines Jurisdiction In Ice Cream Mfr. Cases

WASHINGTON, D. C.—The hearing examiner in the Federal Trade Commission hearings on the complaint filed against some of the major ice cream companies charging them with unfair practices in "giving away" equipment, has ruled that he will take jurisdiction in these complaints even though the frozen products were in intra-state commerce, if it can be shown in a particular transaction that the facilities moved in inter-state commerce.

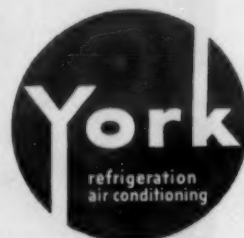
In a previous ruling the hearing examiner rejected the offer of evidence as to transactions in the ordinary course of business, thereby limiting his interpretation of the scope of the complaint to transactions which occurred at the time an account changed hands.

The FTC hopes to complete the first phase of the changes (returns on requests, company data and books, etc.) by April 1. The second phase, namely, "hearings in the field to determine competitive injury" would follow after that.

Furniture Store Gets Cooling

GRAND RAPIDS, Mich.—The Arthur Boot Co. here is currently installing Airtemp air conditioning units on the first, second, and third floors of Klingman Furniture Co. here, Arthur Boot announced recently.

Here's why you should handle the quality line of air conditioning and refrigeration



York Craftsmanship... we call it *Yorkmanship*... has made York products the quality standard of the industry. Now, more than ever before, it's important for you to take the quality road to air conditioning and refrigeration profits. Buyers have become more discriminating. Even if you handle a price line, you ought to have the *quality leader*.

Here are five of the many reasons why your business will grow with the Quality Name in Air Conditioning and Refrigeration:

- Over 70 years of leadership in developing product feature "firsts."
- World's largest storehouse of Air Conditioning and Refrigeration know-how.
- Two factories manufacturing complete lines.
- The industry's most modern research laboratory.
- An experienced distributor to help you get the most of a billion-dollar market.

Yorkmanship combined with *Salesmanship* has produced a powerful new program to push sales of the nation's finest line of air conditioning and refrigeration appliances. Act now. Put *Yorkmanship* to work for you. Get an early start by using this coupon today!



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Commercial Division

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Please send me complete information and merchandising plans on the products checked:

Yorkaire Room Conditioners ☐ Yorkaire Store Conditioners ☐
Automatic Ice Cube Makers ☐ York Condensing Units ☐
Unit Coolers ☐ York-Flakce Automatic Ice Makers ☐
Yorkaire Residential Air Conditioners ☐

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the quality name in air conditioning and refrigeration

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885



no permanent lines removed for servicing

- 1 All parts are at your finger tips when you remove one thumb screw.
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- 3 Machine bolts with lock nuts are used throughout construction... no sheet metal screws!
- 4 Extra large Facetized* fin coil assures maximum heat transfer.
- 5 Pre-determined spacing and slotted hangers for easy, exact installations... fans can't be blocked in installation.

Tenney's exclusive easy-to-service design saves time and effort! Modern, semi-circular shape insures maximum all-over air distribution... compact sizes add to usable work area. Load right up to unit because pan can be removed from any direction... double drain trough pitched toward connection and insulated... controlled horizontal airflow eliminates uncomfortable direct drafts.

Twin motors and fans give double protection... a single motor will maintain safe temperature... attractive covers have rust proof baked-on finishes... filters are available for applications requiring clean air circulation... female pipe thread adapts drain connection to any line... units skillfully engineered for long, dependable service.

*PATENTED

There's a Tenney TW unit cooler for every refrigeration job. For complete information write for Bulletin 103-54 TODAY!



Pioneer Manufacturers of Refrigeration and Environmental Equipment



Refrigeration Problems and their solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

Choosing the Compressor Oil (3)

WAX IN OIL

In the early days of electric refrigeration, no one seemed to give much thought to the fact that the wax present in all lubricating oils could cause trouble. Probably one reason was that low temperatures were not as common as at present.

At any rate, back in the thirties we began to notice that, particularly on low temperature work, we were having a lot of "moisture" trouble—expansion valves frozen—that a drier did not seem to help.

On a typical job of that sort, the thermostatic expansion valve would be found to be "frozen"—wouldn't open, or acted "sticky." If the serviceman warmed the valve, it would open and go right to work. So he would conclude that there was moisture in the system, and

he would put on a drier and figure that he had it fixed.

Within a day or so, or perhaps the same day, he got a call-back—same trouble. He probably figured that one drier was not enough, so he put on another. Or he might decide that valve was stuck or its power element had lost some of its charge, so he changed the valve.

In another day or two—same thing. By that time he was getting a bit sore, and a bit more curious. In taking off the valve this time, he noticed a liquid run out of it. Seemed just oil though. Maybe even a lot of it was water, he thought, from ice that may have been in the valve.

If he took the valve off quickly, and happened to examine it right away, he might have noticed the outlet of the valve filled with what seemed to be a whitish ice. Some servicemen got this out before it melted, and found that it looked a lot like a wax candle, which when melted in the palm of the hand, seemed to be more oil than water.

TX VALVES UNJUSTLY BLAMED

The expansion valve manufacturers were much disturbed over the number of valves that they were getting back as "defective," but which they found to be quite OK. One manufacturer reported that, during one period, they could find nothing wrong with four out of five valves returned to them. Naturally, this was very expensive to them, and they were inclined to blame the servicemen for careless diagnosis, and that they were becoming "valve-changers."

Finally, it was found that a large part of what we had been calling "moisture trouble" and "expansion valve trouble" was really due to the presence of wax in the compressor oil.

FINALLY TRACED TO WAX

This wax congealed when it hit the cold expansion valve, and finally kept building up until it almost stopped up the valve. It acted almost exactly like moisture. When the valve finally filled up

enough with wax, so little refrigerant got through the valve that the coil and valve defrosted. Then the wax in the valve melted (just as ice in the valve would also do), and the valve went back to work.

As soon as the industry became aware of what was causing the trouble, it was no problem to overcome it. One refrigerant manufacturer put a "wax-free" oil on the market, and the oil refiners generally, began to de-wax their oils.

A test for the presence of wax in the compressor oil was included in the specifications of the oil purchased from the oil refiners, and today we hear much less of wax trouble. The most commonly used of the tests to determine the wax content of the oil is called the Floc Test.

THE FLOC TEST

All mineral oils have some wax in them originally. The paraffinic base crudes, such as those from the eastern part of the country, tend to have more wax in them originally than the naphthenic base crudes from the western oil fields.

At the higher temperatures, these waxes stay dissolved in the oil, but they begin to congeal and separate out as the temperature of the oil drops. Also, the temperature at which this separation starts is affected by the amount of refrigerant mixed with the oil.

In the Floc Test, a mixture of 90% oil and 10% "Freon-12" (or "Genetron-12") is put in a test tube and submerged in a cold liquid, such as brine. The temperature of the brine is gradually reduced until little clouds or "floc" begin to show up in the oil-refrigerant mixture. The temperature at which these tiny floc are first perceptible is called the Floc Point.

The Floc Point required for an oil depends, of course, on the lowest temperature at which the evaporator on the installation will be operated; and the lower the evaporator temperature, the more important becomes the Floc Point of the oil.

The Floc Point would not be of very much importance for an oil that was to be used only in compressors on air conditioning installations on which the evaporators were operated at temperatures about 40° to 45° F.

On the other hand, the Floc Point of an oil to be used on an ice cream cabinet or a freezer would be of considerable importance. Obviously, the Floc Point would be of great importance on an ultra-low temperature installation.

FLOC POINT FOR OILS FOR SERVICE STOCK

In his limited stock of four to six oils, the service engineer will have at least one 150 SSU viscosity oil for his low temperature jobs. On some of these, such as open self-service, open type, frozen food cases, the evaporator temperatures may at times run as low as -40° to -50° F. Therefore, the Floc

Point of this oil should be at least that low.

The Floc Point for his 300 SSU viscosity oil can be somewhat higher, for the probabilities are that it will not be used to any great extent in the very low temperature jobs. However, it may be used on installations having evaporators as low as -25° to -30° F., so it's Floc Point should be that low.

POUR POINT

Another characteristic of a compressor oil that appears in oil specifications is the Pour Point. As its name indicates, Pour Point is the temperature at which the oil will no longer pour or flow readily.

An oil with a too-high Pour Point might give trouble in the evaporator, and particularly in a capillary tube. Such an oil might not return to the compressor properly, so the evaporator would tend to become oil-logged.

The service engineer does not ordinarily have to be concerned with the Pour Point of an oil, for if he buys a highly refined oil of good quality and with a sufficiently low Floc Point, the Pour Point will be below -25° to -30° F., which is adequate.

Kansas City RSES To Mark 20th Anniversary Apr. 30

KANSAS CITY, Mo. — The Greater Kansas City Chapter of the Refrigeration Service Engineers Society is planning to mark the 20th anniversary of the signing of the original Kansas City RSES charter with a celebration.

G. L. Easley, vice president, said arrangements are being made for a large celebration with a dinner-dance to be held in the Roof Gardens of the Aladdin hotel on Saturday night, April 30.

The chapter intends to honor the signers of the original charter together with the past presidents. Ernie Tramposh, president of Refrigeration Equipment Co., will act as master of ceremonies.

Values Service News

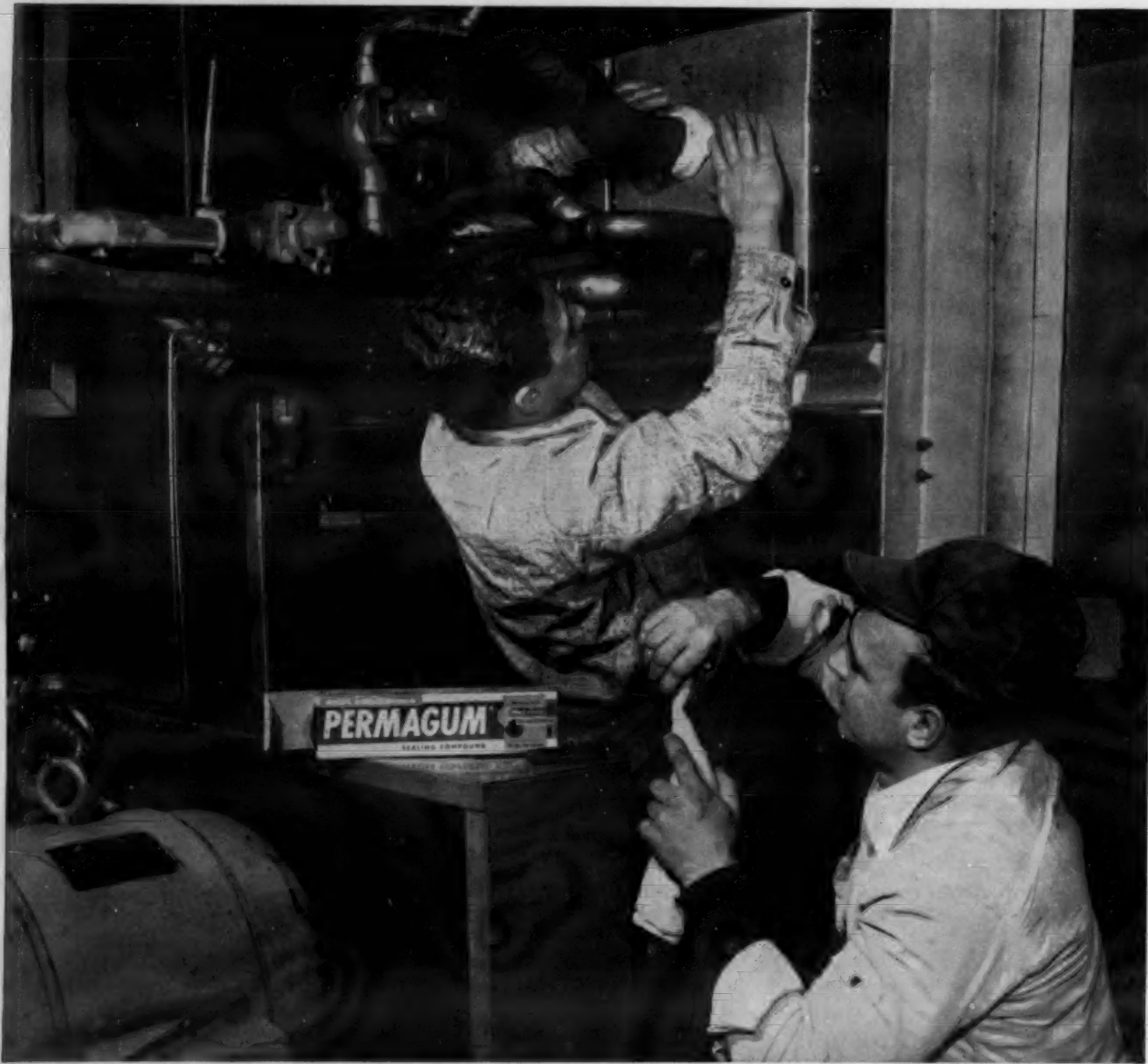


HAROLD C. HOBSON

"As a refrigeration serviceman for Kelnard Sales & Service, Long Island City, N. Y., I find that AIR CONDITIONING & REFRIGERATION NEWS helps me considerably. I have been a reader for several years and consider the NEWS the best source of information for all fields of the industry."

Harold C. Hobson
1683 Grove Street
Brooklyn 37, N. Y.

"Look twice — it's worth the price!"
AIR CONDITIONING & REFRIGERATION NEWS
"The Newspaper of the Industry"



Permagum makes a perfect seal every time

Manufacturers and service men alike prefer the positive sealing action they get from Permagum. Used to seal inspection plates, pipe and conduit openings, refrigeration and display cases, Permagum eliminates the host of troubles which condensation can bring down on your head—from just plain heat loss to ruined insulation.

These men are using gray-white Permagum, which is odorless, never hardens, and can be painted over

immediately after application. Since it won't attack insulation, it is ideal for use around electric wiring, rubber or plastics. Brown Permagum is a heavy-duty sealer which will adhere to any dry surface and remain pliable from 0° to 350°. Both forms come in 2½ lb. and 55 lb. slugs, while gray-white Permagum is also available in 80 ft. rolls of ¾" cords and 20 ft. rolls of ⅜" cords.

Your wholesaler has Permagum

—or write Refrigeration Division,
VIRGINIA SMELTING CO., Dept. 63,
West Norfolk, Va.

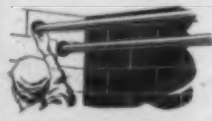


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SUNISO REFRIGERATION OILS

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Won't attack electrical insulation.



Seals pipe openings permanently.



Perfect for refrigerator and display cases.

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Receive the greatest trade paper in the industry—AIR CONDITIONING & REFRIGERATION NEWS. Published every week. Brings you latest news and vital information on air conditioning, commercial and industrial refrigeration, home freezers, and household refrigeration; manufacturing, contracting, distributing, retailing, and servicing. Only \$6.00 per year, 52 issues.

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3-7-55

Taylor's of Cleveland Gets \$1,500,000 Cooling Job

CLEVELAND — A \$1,500,000 project to air condition the entire department store at E. Sixth St. and Euclid Ave. is under way, Wm. Taylor Son & Co. announced recently.

Work is scheduled to be completed before summer. The job will proceed floor by floor, starting with the downstairs store and ending with the ninth floor. All selling departments, offices, workrooms, employees' restaurant, and locker rooms will be air conditioned, it was pointed out.

Installation of equipment will be directed by Carrier Corp. through its office here. Firms participating in the work include Albert Higley Co., general contractor; Horn & Rhinehart, architect; Paul Fleming, consulting engineer; and other Cleveland contractors.

David H. Scholl, vice president and general manager of Taylor's, said the large investment is an expression of the department store's confidence in the growth of downtown Cleveland. He added that the air conditioning project is another step in the store's expansion and improvement program launched at the end of World War II.

Worthington '54 Sales Hit \$138,299,842

NEW YORK CITY—Worthington Corp.'s total sales in 1954 amounted to \$138,299,842 and the net income after taxes reached a new high of \$6,938,826, according to the company's annual report.

Hobart C. Ramsey, chairman of Worthington, stated that the corporation's net billings in 1954 were slightly below 1953, but as a result of improved production efficiency the net income was substantially greater. The ratio of pre-tax earnings to sales rose from 8.6% in 1953 to 10.2% in 1954. The dividends paid on common stock continued at \$2.50 per share for the year.

Worthington's production for the air conditioning, refrigeration, and home heating fields is expected to represent 25% of the corporation's business in 1955, Ramsey said.

Shopping Center Contract Goes To James H. Folland

EXETER, N. H.—James H. Folland of Exeter received the contract to air condition the \$160,000 Exeter Shopping Center located here.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

EXECUTIVE ENGINEER with top level experience in commercial refrigeration and air conditioning. College graduate, best references furnished. Nine years' association with leading coil and packaged air conditioning manufacturers. Seek desirable connection with growing firm in development or sales. BOX A5185, Air Conditioning & Refrigeration News.

DO YOU need someone to assist you or supervise your refrigeration and air conditioning service and installations, electrical contracting, electrical motor and appliance repairs? Am a master electrician, with 20 years' experience in above work. Will only consider offer from a progressive and reliable firm. Am presently employed. BOX A5186, Air Conditioning & Refrigeration News.

REFRIGERATION SERVICE & installation engineer, 20 years' experience on all types and makes of commercial refrigeration. Also some industrial air conditioning and some heating. Nine years with present employer, 29 years old, married, 3 children. Desires position with advancement. Best of references and will relocate. BOX A5187, Air Conditioning & Refrigeration News.

MANUFACTURER'S AGENT Metropolitan New York and/or New Jersey desires an additional line of air conditioning equipment or refrigeration equipment or related products. Well established connections with this industry and wide contacts in this field. RUSSELL T. TREE, 77 Brookside Avenue, Caldwell, New Jersey.

POSITIONS AVAILABLE

WANTED—EXPERIENCED refrigeration service mechanic for commercial work in air conditioning and refrigeration. (Frigid-air and Tyler dealer). Year-round work and good pay. Apply ALLIED REFRIGERATION COMPANY, 904 South Erie Highway, Hamilton, Ohio, or phone Hamilton 5-5306.

MANUFACTURER'S REPRESENTATIVES wanted by nationally known manufacturer of shelving and gondolas for food markets, etc. sold through commercial refrigeration distributors. We are establishing, for the first time, a national sales organization of representatives to personally contact distributors and dealers. Exclusive territories are now available. This is an opportunity to gain a live, desirable income line which beats all competition in price and quality. Write for full particulars on our product and our national sales promotional program. SKOKIE VALLEY PRESSES METALS, STOR-RITE DEPT., 1519 W. Howard St., Chicago, Illinois.

CAN YOU run a service organization? Marvelous opportunity for qualified man to take over present successful maintenance and service organization consisting of 10 men and trucks and build himself a permanent business future with unlimited income. Location is the fast growing Philadelphia and Camden area, with Carrier franchised distributor. Give detailed summary in first letter. All replies confidential. BOX A5182, Air Conditioning & Refrigeration News.

ENGINEER WITH good refrigeration background and experience in sheet metal design for assistant chief engineer in midwest plant producing special refrigeration and air conditioning equipment. Man we want may be between thirty and fifty, has responsible position now but may not be satisfied with future prospects. Starting salary \$7500.00 with definite program for advancement. Reply with brief biographical sketch to BOX A5183, Air Conditioning & Refrigeration News.

SERVICEMAN, THOROUGHLY familiar with commercial air conditioning installations. Some knowledge of heating systems helpful. Service our own installations only. Travel extensively for national chain; particularly southeast. Expenses and mileage paid. Year-round position. State age, marital status, past experience, references, telephone number and expected starting salary in first letter. BOX A5189, Air Conditioning & Refrigeration News.

AIR CONDITIONING sales engineers. Would you like a set-up that would reward you with a return of 25% of gross profit on any order you produce for New York City area only? Answer this ad to arrange an appointment with a well advertised firm having an excellent reputation with over 25 years in air conditioning sales, installation and service experience. We require men capable of selling, estimating, and engineering large air conditioning commercial installations. We provide capable assistance in selling—engineering if required. Please address all replies to BOX A5190, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

MAKE MONEY with the most compact self contained Kesco model K-40 12 foot head condensate water disposal unit designed for air conditioners, ice cube bins, drinking fountains. Only 9" high, 11" wide, 4 1/4" thick. Complete with floodproof motor and switch. List \$50.00. Order from your jobber or write KESCO PRODUCTS CORPORATION, P. O. Box 84, Springfield Gardens, New York.

ATTENTION SERVICEMEN: Save 25 to 50% on your refrigeration parts. Send for our catalog of values today. Here is only one of our money saving offers. 1 1/2" O.D. copper connections x 1 1/4" overall vibration eliminators, \$4.65 each. Lot of 10, \$40.00 each. WALTER W. STARR REFRIGERATION SUPPLIES, 2833 Lincoln Avenue, Chicago 13, Illinois.

REVOLUTIONARY IN design, operation and construction. New cooling tower to be marketed soon. One basic unit for 3, 5, and 7 1/2 ton capacity. Most competitively priced on market. Distributor and dealer franchises now being considered to active and well rated accounts. For details, write on business letterhead, BOX A5188, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

REPUTABLE AIR conditioning engineers desire installation of air conditioning manufacturing plant in New Delhi, India, and require technicians and machinery on royalty or partnership basis. Interested firms kindly communicate with MODERN ELECTRO MECHANICAL WORKS, 25/8 Prem House Opp. Odeon, New Delhi, India.

MISCELLANEOUS

"SEALED UNIT Rebuilding-Basic Tools & Methods"—an instructive copyrighted manual giving complete details on economically equipping your shop to handle hermetic rebuilding. Exclusive trade secrets unavailable elsewhere. Mail postcard for descriptive folder. H. W. CUSTER, P. O. Box 98, Center Line, Michigan.



Government Contracts

PROCUREMENT INFORMATION

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Erietta Arsenal; Ordnance Ammunition Center, Joliet, Ill.; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of these offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices.

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing officer under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date.

DEPARTMENT OF DEFENSE

Invitations for Bids numbers will be followed by the letter "B." Requests for proposals or quotations will be indicated in this column by the letter "Q," or, if numbered, the number will be followed by the letter "Q."

Description	Quantity	Invitation No.	Opening Date
Purchase Division (MRPE), Rome Air Force Depot, Griffiss			
Air Force Base, Rome, New York			
Rehabilitation of cold rooms for photographic material storage, building No. 2, Griffiss Air Force Base, Rome, N. Y.	Job	(30-635-55-95)	14 Mar 55
Purchasing and Contracting Office, Turner Air Force Base, Albany, Georgia			
Mechanical ventilation in 28 barracks to include furnishing all plant, labor, equipment appliances and materials and in performing all operations in connection with the installation of 2 attic fans per barracks. Exhaust louvers and electric service in accordance with plans and specifications. Directorate of Procurement and Production, Ogden Air Materiel Area, Hill Air Force Base, Utah	Job	(42-600-55-49B)	31 Mar 55
Addition to heating plant Building S-878.			
Office in Charge, Navy Purchasing Office, Washington, D. C.			
Air filters, sizes 10 AF-11, AF-12, AF-13, AF-14 and 15 AF per Specification MIL-F-16552-B dated 3 Nov. 1954.	2411	(1FB-600-914-55S)	18 Mar 55

Note: Quantity indicated is total of all sizes combined, these air filters are of a type on TE Navy qualified product list.

Officer in Charge of Construction, First Naval District, Boston, Massachusetts
Air conditioning storage area receiving station Boston, Mass., \$10 for bidding data payable to Threass of US.
Purchasing and Contracting Office, St. Louis Area Support Center, 12th & Spruce Sts., St. Louis 2, Missouri
Air conditioning of class rooms bldg 4 south St. Louis storage activity, 5900 S. Broadway St., Missouri, pro-10-55. Deposit required: \$3.00 per set drawings.

GENERAL SERVICES ADMINISTRATION

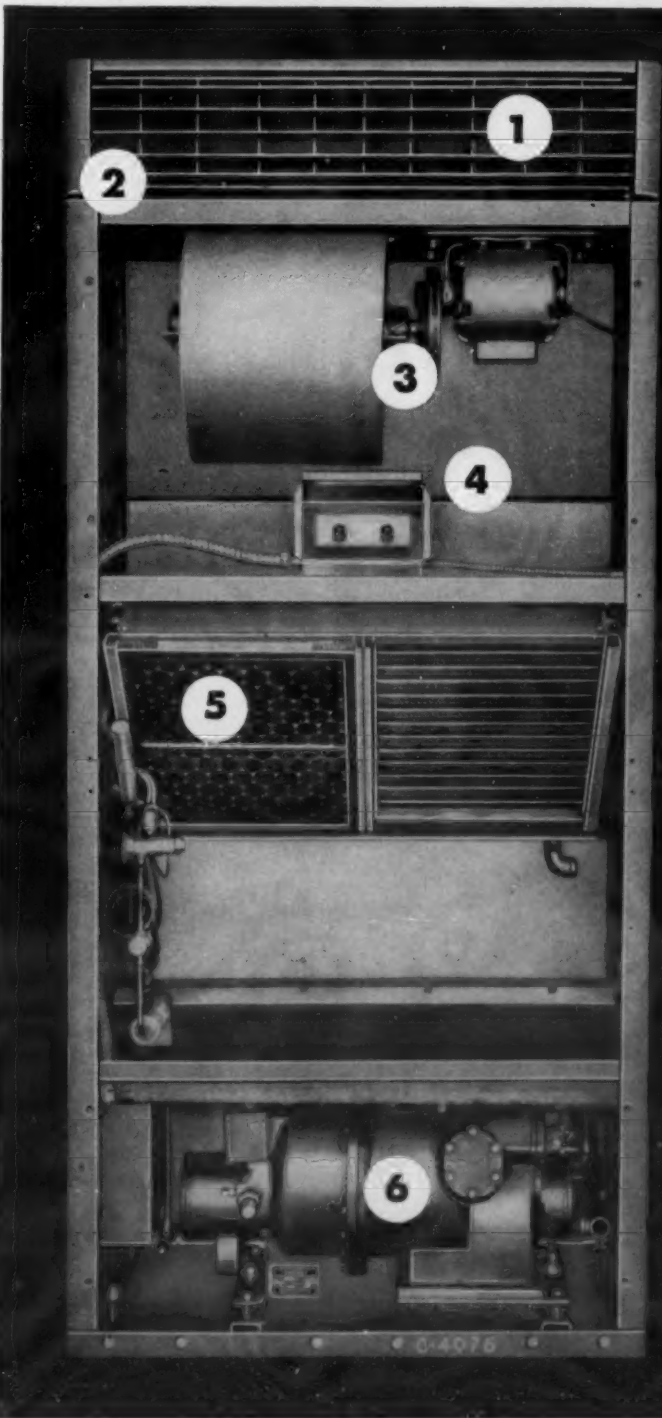
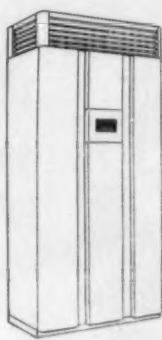
General Services Administration, Business Service Center, 114 Commerce, Dallas, Texas
Dallas, Texas, 1200 Jackson St., Crane Bldg.
Air Conditioning, Etc.
General Services Administration, 19th and F Sts., N.W., Washington 25, D. C.
Remodeling Building No. 9, at the National Institutes of Health, Bethesda, Maryland. Remodeling present building, approximately 20,000 sq. ft. floor space. Installing new structural facing tile, and structural tile, partitions, wire mesh partitions and cages, new asphalt and vinyl tile floors. New addition to building approximately 5,250 sq. ft. floor space. Two new hand-power elevators, two floor travel. Work includes heating, ventilating, and new air conditioning systems, and all utilities.
Business Service Center, General Services Administration, 575 U.S. Courthouse, 219 S. Clark St., Chicago, Illinois
Refrigerators, Fed. Specification AA-R-211c and Amendment 1.
Cabinets, low temperature. 1 ea. CHD-1068 16 Mar 55

CONTRACTS AWARDED THROUGH MARCH 1

Bureau of Ships, Washington, D. C.
Cooling coils (1FB-600-288-55S).—100, \$33,300.—Marlo Coil Co., St. Louis, Mo.
12-ton unit equipment for air conditioning. 440-V, 3-phase, 60-cycle A-C (1FB-600-302-55S).—48, \$228,900. Carrier Corp., New York, N. Y.
U. S. Army, 1819 W. Pershing Rd., Chicago 9, Illinois
Refrigerator unit gasoline engine driven (Panel type) for 7 1/2-ton semi-trailer refrigerator (Q).—131 ea., \$209,453.—U. S. Thermo Control Co., 44 S. 12th St., Minneapolis 3, Minn.
Spare parts and tool set.—131 set.—U. S. Thermo Control Co., 44 S. 12th St., Minneapolis 3, Minn.
Headquarters, Oklahoma City Air Materiel Area, Tinker Air Force Base, Oklahoma City, Oklahoma
Air conditioning of IBM Area, bldg. No. 1, Tinker A.F.B. (1FB) 34-601-55-127.—Job, \$25,630.—Mechanical Contractors, Inc., 47 N.E. 28th St., Oklahoma City, Oklahoma.

Top product... top promotion

get Worthington packaged unit dealers off to a running start!



HERE'S THE PRODUCT — Worthington's handsome, quiet-running packaged air conditioner loaded with features that make it the easiest-to-use, easiest-to-sell packaged unit your customers have ever seen!

- 1 THREE-DIMENSIONAL CIRCULATION. Individually adjustable horizontal and vertical louvers send cool air in any or all directions.
- 2 GOOD-LOOKING, BAKED ENAMEL FINISH with gold trim sets new style standards.
- 3 LIFE-TIME, PRE-LUBRICATED FAN and motor bearings provide vibrationless, trouble-free performance.
- 4 EASY-TO-USE, convenient controls give new care-free operation.
- 5 VISCOUS-TYPE, THROW-AWAY FILTERS assure fresh, clean air all the time.
- 6 "MILLION-DOLLAR" SEALED COMPRESSOR gives extra years of whisper-quiet performance. Fully warranted.

HERE'S THE PROMOTION — the hardest-selling package in Worthington's history! Merchandising displays, mailing pieces, new Trans-Vision Booklet, bulletins, ad mats, radio and TV spots — Worthington supplies every conceivable kind of modern sales aid to help dealers find prospects and turn them into sales. And Worthington's big-money national advertising campaign blankets the packaged air conditioning market in such leading publications as BUSINESS WEEK, NATION'S BUSINESS, ARCHITECTURAL RECORD, HEATING AND VENTILATING, and HEATING, PIPING AND AIR CONDITIONING — talking straight to the people who'll buy from you.

Add to that Worthington's newly-created staff of factory-trained field promotion specialists. These experts are always ready to give you a helping hand in putting over promotions that spark sales.

Sounds good, doesn't it? There's more, too. Get the whole story by writing to Worthington Corporation, Air Conditioning and Refrigeration Division, Sect. A.5.52-AC, Harrison, New Jersey.

A.5.52

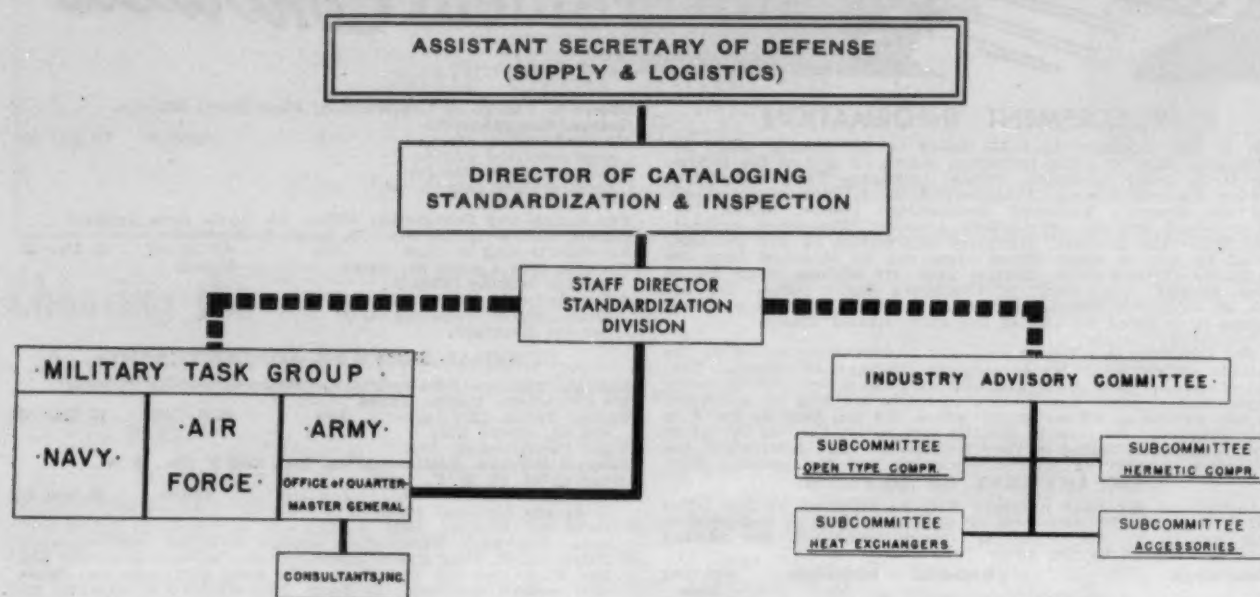
WORTHINGTON



THE BEST FRANCHISE

THE MOST COMPLETE LINE

Military Refrigeration, Air Conditioning Standardization Project



ORGANIZATIONAL chart shows relationship of industry and military groups cooperating in program to standardize refrigeration and air conditioning components for field military equipment.

Two Compressor Models Will Meet Military Field Specifications--

(Concluded from Page 1, Col. 2) hermetic compressors, heat exchangers, and accessories.

The project is limited to military field refrigeration equipment in the range of 1/4 to 10 hp.

Organization and working relationships of the over-all industry advisory committee, the four industry sub-committees devoted to the specific problems, and representatives of the Army, Navy, and Air Force on the military task group working on the standardization project are shown in the accompanying chart.

Reduction of Maintenance Parts Aim of Project

Objective of the over-all program "is to reduce the number of maintenance parts and components that are procured, stocked, and distributed to furnish logistic support to the troops in the field," explains the Defense department.

"Upon completion of this program, the military will have for the first time certain major components of their refrigeration equipment which are interchangeable between systems, even though they were produced by several manufacturers.

"Refrigeration has always been vital to military operations in the preservation and distribution of fresh foods, biologicals, and blood," says the Defense department.

Air Conditioning Essential to Radar

"Air conditioning has recently become essential because of its use in radar installations and field hospitals. The need for standardization was emphasized in World War II when military logistics faced the problem of matching the individual manufacturer's equipment in world-wide distribution of maintenance parts and components," it was explained.

The study on standardization was begun in September, 1950, by the office of the Assistant Secretary of Defense. Representatives of the Army, Navy, and Air Force pooled their requirements and started development of equipment common to these requirements which would meet all of the department needs.

"Next step required the standardization of major components which are common to all equipment," continues the Defense department.

Production Line Facilities

"It was realized that the use of commercial equipment was essential not only from a cost standpoint but to have production line facilities available to meet the demands during emergencies. The Quartermaster Corps was designated to represent all military services as liaison with industry."

In July, 1952, an Industry Advisory Committee was established.

Later the four industry sub-committees were set up.

Reviewing the accomplishments of the sub-committees, the Department of Defense explains that the open type compressor group "recommended standards necessary to make compressors interchangeable. A working group was formed to complete the details.

"Specifications for military field equipment contained 36 different capacity requirements for open type compressors. There was little or no uniform basis of temperature conditions for measuring these capacities.

"This resulted in the purchase and stocking of more than 36 compressor models.

"The standardization program has standardized the temperature conditions for determining military compressor capacities, and has adjusted capacity requirements so that all field equipment specifications can now be met with two compressor models which are produced by several manufacturers.

Over-all Dimensions Limited

"Agreement was reached on the limiting over-all dimensions; the size, type, and location of service valves, and the size of threads and bolts. They also recommend a single size of shaft seal to be used in all military standard compressors.

"Prototype compressors that are completely interchangeable have been produced by three manufacturers and are now under test by the Quartermaster Corps," the Defense department reveals.

"This is a big step forward in carrying out the objectives of the military program. These prototypes will be given extensive tests for qualification before adoption as standard.

"These compressors have been rated for 110° F. ambient through a saturated suction temperature range of -20° F. to 50° F. They are also rated for operation in 125° F. ambient at 50° F. saturated suction."

Hermetics Held In Abeyance

Activity of the sub-committee on hermetics "was held in abeyance until the standardization of open type compressors was assured," explains the Defense department.

"They are now proceeding with an adopted plan for carrying out the work. Tentatively, this plan will be in two phases, first phase for compressors of 1 hp. and below, and second phase for above 1 hp.

"It is expected that the same success can be attained in providing interchangeability of hermetic compressors that has been obtained with the open type.

"The heat exchanger sub-committee has made considerable progress in standardizing air-cooled condensers," states the Defense department.

"They will soon study evaporators, water-cooled condensers, heat exchangers, and receivers, in the order named.

"This industry sub-committee met and adopted an over-all plan for carrying out their phase of the standardization program. Tentatively, they have reached agreements on the standardization of air-cooled condensers, which in-

clude fans and motors. Certain standards on fins and thickness of tube will be adopted along with block configuration."

The sub-committee on accessory components "will be activated when progress is made on the standardization of the other major components," it was explained.

"When the industry recommendations have been carried out on the standardization of each component, specifications will be drawn and each component will then be procured and tested prior to final acceptance," the department says.

"The different systems will then be assembled from these standard components and tested to prove the design capacities required for all military field equipment."

Industry Representatives

Industry is represented on the various committees as follows:

Industry Advisory Committee: W. A. Grant, Carrier; R. F. Lauer, York; C. Ploeger, Servel; B. S. Booher, Frigidaire; J. L. Ditzler, Westinghouse; J. D. Loveley, Airtemp; L. W. Larsen, Tecumseh; C. L. Coulter, Lehigh; O. H. Buschmann, Copeland; F. Hawk, Brunner; K. A. Gould, General Machine & Mfg. Co.; I. Kramer, Kramer Trenton Co.

Chairman of this committee is H. Brodsky, acting director of the Office of Cataloging, Standardization & Inspection, Department of Defense.

C. F. Fogarty of the Standardization Division is program man-

ager and serves as chairman of the Military Task Group and the four industry sub-committees whose membership includes:

Open type compressors: C. Ploeger, Servel; T. G. Foster, Carrier; A. Ruth, Lehigh; O. H. Buschmann, Copeland; F. Hawk, Brunner; F. Jones, U. S. Thermo Control.

Hermetic compressors: L. W. Larsen, Tecumseh; J. L. Ditzler, Westinghouse; O. H. Buschmann, Copeland; R. F. Lauer, York; O. Ploeger, Servel; T. Foster, Carrier.

Heat exchangers: C. Boling, Bush; Byron Halstead, Halstead & Mitchell; I. Kramer, Kramer Trenton; A. J. DeFino, Fedders-Quigan; E. B. Dunphy, Acme Industries.

Accessories: C. A. Button, Mueller Brass; J. E. Dube, Alco; J. E. Haines, Minneapolis-Honeywell; E. Jones, Henry Valve; R. S. Penn, Penn Controls; H. F. Spoehrer, Sporlan; J. M. Strauss, Detroit Controls.

Military Task Group is made up as follows:

Army: F. Boucherer, Signal Corps; B. D. Pile, Medical Corps; Lt. Col. S. J. Weidenkopf, M.S.C.; F. A. Peckham, Engineer Corps; W. C. Whittlesey, Quartermaster Corps; J. T. Byrnes, Engineer Corps; R. L. Wagner, Ordnance Corps; H. Graus, Engineering Corps.

Navy: E. H. Honegger, Bureau of Ships; A. L. Graul, Bureau of Yards & Docks; R. E. Pessaud, Bureau of Supplies & Accounts; Capt. T. R. Freeman, U.S.M.C.

Air Force: Wm. T. Smith, Headquarters.

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